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VICTORIA



# FIFTY-FOURTH REPORT

OF THE

# COMMISSION OF PUBLIC HEALTH

FOR THE

YEAR ENDED 30<sup>TH</sup> JUNE, 1976

PRESENTED TO BOTH HOUSES OF PARLIAMENT PURSUANT TO SECTION 23 (3)  
OF THE HEALTH ACT 1958

*By Authority:*

C. H. RIXON, GOVERNMENT PRINTER, MELBOURNE.

## COMMISSION OF PUBLIC HEALTH

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# FIFTY-FOURTH REPORT OF THE COMMISSION OF PUBLIC HEALTH 1975-76

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*To the Honorable William Vasey Houghton, M.L.C.*

SIR,

We have the honour to submit, in accordance with Section 23 (3) of the Health Act 1958, our report for the year ended 30th June, 1976.

During the period under review the Commission met on twenty-six occasions. One meeting took place at the Ballarat Town Hall and members were received by the mayor and councillors of the City of Ballarat.

## *Maltreated Children.*

A study of the medical records for the period 1967 to 1973 of the Royal Children's Hospital in which Miss P. Price, an officer of the General Health Branch, participated was carried out as part of the research into child maltreatment. The purpose of the study was to assess the numbers and characteristics of children admitted to the hospital with injuries suspected to have been inflicted by persons responsible for their care or deliberately exposed to hazards which could result in injuries.

The study showed that boys outnumbered girls both in the 316 children involved in incidents of maltreatment and in the 394 incidents reported. The higher proportion of boys and girls was more apparent under the age of two than in the older age groups.

Although bruises and welts were the most commonly occurring injuries, a considerable number of the incidents involved fractures. More than one third of the injuries were serious, the proportion of such injuries being highest in the youngest age groups. Ten children died as a result of the incidents recorded and a further six died following further incidents which occurred after discharge from hospital.

## *Child Care Facilities.*

New initiatives in the provision of child care facilities which developed during the year, promise to considerably increase the scope and flexibility of child care facilities.

In March, 1976, the Commonwealth Government agreed to finance the capital cost of facilities now described as "small group child care centres" on the understanding that such centres met site, building and operating standards determined by State authorities.

The Commission planned to delegate to the Department's Division of Pre-School Child Development the specification of individual requirements and supervision of operation of these centres and also parent run play groups. It is proposed that this arrangement be reviewed at a later date.

The Commission is in the process of detailing guidelines for both small group child care centres and parent run play groups. In addition, consideration is being given to the problems associated with the provision of short term child care facilities at squash courts and other sporting and recreational venues where parents are present and the care is limited to not more than two hours per day on not more than two days per week.

## *Special Accommodation Houses.*

By 30th June, 1976, 125 Special Accommodation Houses had been registered and a further 70 applications were at varying stages of processing.

As many proprietors had operated their premises for the accommodation of aged or physically handicapped persons for some years before the coming into operation of the special legislation, the granting of registration has been made subject to conditions within specified periods. At times, proprietors made representations for modifications some of which were granted provided that the safety and welfare of inmates was not likely to be affected.

The Commission received a deputation from the Rest Homes Association which was informed that the Commission would continue to exercise its discretionary power in deciding conditions of registration.

As stated elsewhere in this report a number of proprietors of special accommodation houses were successfully prosecuted for failure to register their premises after being warned on a number of occasions of their obligation to apply for registration.

### *Institute of Health Surveyors.*

The Commission is indebted to the Institute and its members who have assisted over the years in developing and co-ordinating preventive health measures throughout the State.

During the year most successful seminars, which were orientated to the introduction of the Cleanliness (Foods, Drugs and Substances) Regulations, were conducted and the Commission recognises the invaluable part played by health surveyors in these seminars.

Municipal health surveyors have for some time assisted Commission officers in the preparation of draft legislation and it is now proposed that this arrangement be formalised by inviting the Institute to be represented on the Regulations Review Committee and its sub-committees. The Commission now awaits the submission by the Institute of a panel of twenty names of members who would be able to assist with the review of legislation having regard to their particular individual areas of expertise.

### *Australian Encephalitis.*

During the 1975-76 summer period the Commission undertook another campaign to control the mosquito *Culex annulirostris* in northern Victoria. The decision to mount the campaign was made on the recommendation of an expert committee which considered that increased mosquito breeding was probable as a result of the increased rainfall in the area.

With the unstinting co-operation of the municipal health inspectors, the campaign was successful. Research carried out in Victoria and other states is producing vital information on Australian Encephalitis and its method of spread and the Commission is playing a big role in this essential research.

### *Staff.*

A number of changes in staff have occurred over the past year, the most significant of which has been the retirement of the Chief Engineer, Mr. P. Olsen and the promotion of Mr. C. Berkley to his vacancy. The workload on individual staff members has continued to grow as the increasing complexity of society gives rise to new health problems, application for registration or approval of all types continue to increase and new responsibilities have been added. Staff increases have not kept pace with increasing workloads but the Commission recognises the untiring efforts of the staff and has accepted as a policy that in making recommendations relating to new responsibilities those recommendations should not be implemented until appropriate staff has been appointed to carry out the resultant duties.

### *Closing of Lady Dugan Centre.*

With regret the year saw the closing of the Lady Dugan Centre as one of the focal points of poliomyelitis treatment in the State. The Centre had been sold by its owners, the Red Cross Society, and has now been vacated. The Commission is most grateful to the Board of the Fairfield Hospital which at short notice made available facilities to replace those formerly utilised at the Lady Dugan Centre. It is proposed in the future to make considerably greater use of other community facilities in the treatment of poliomyelitis sufferers.

## EPIDEMIOLOGICAL AND INFECTIOUS DISEASES REPORT.

### HEPATITIS A.

This disease is spread mainly by close personal contact and young children are very liable to infection. The causative virus still defies cultivation and therefore neither can it be traced through the community nor can an active immunizing agent be manufactured.

Notification figures were again low, being 648. Outbreaks were reported from several outer metropolitan schools in the latter part of the year and were the subject of epidemiological investigation.

Seven deaths were registered for the year.

### HEPATITIS B.

Most of the 138 notifications came from Fairfield Hospital and the metropolitan area. This incidence represents a 75 per cent increase over the previous year's 79 cases. Forty eight cases were associated with drug abuse, 18 followed tattooing, five were after blood transfusion and one resulted from ear piercing. Six infections were probably imported and five cases were in hospital personnel. The remainder of the cases had no clear source of infection. A recent death of a 51-year-old man following infection traced to acupuncture has highlighted the need for strict legal controls on procedures involving skin penetration.

## TETANUS.

Four cases, all unimmunized males, were reported.

A 45-year-old farm labourer from North-Western Victoria sustained a severe infection following a contaminated splinter wound.

A 66-year-old man from a North-Eastern Victorian town died from sub-arachnoid haemorrhage which complicated infection following an untreated facial laceration.

The remaining two cases were in 48 and 51-year-olds from the metropolitan area. The former was a severe case which resulted from a scalp injury. The second was a milder infection following a hand wound.

## ZOO NOSES.

Notifications for these diseases comprised :—

Brucellosis	..	..	..	..	41
Leptospirosis	..	..	..	..	18
Hydatidosis	..	..	..	..	2
Anthrax	..	..	..	..	2
Ornithosis	..	..	..	..	2

In addition there was a case of *Salmonella typhimurium* reported in a rural meatworker.

The cases of brucellosis were all acute and all but five were reported from rural areas. Eighteen were associated with dairy farms, eight were meatworkers, one was a stock-agent and another, a veterinarian. With the advent of the Brucellosis Eradication Campaign it is expected that there will be better documentation of illness among abattoir workers.

Leptospirosis incidence was similar to last year's and again predominantly of the hardjo serotype and associated with dairy farming. Two cases of *L. Pomona* were workers in a skin store and pig farm.

Hydatid disease was reported in a 20-year-old man from Western Victoria and a 15-year-old girl from North-Western Victoria. Both had their diagnosis confirmed at operation.

Two cases of cutaneous Anthrax in men aged 40 and 59 years associated with the handling of diseased stock occurred in the outer eastern metropolitan area. Both were successfully treated at Fairfield Hospital. Control measures by Departmental and Municipal Officers contained the outbreak.

The cases of ornithosis were a 50-year-old woman who kept bantams and a 59-year-old gardener who handled parrots in a hospital aviary.

## TYPHOID AND PARATYPHOID FEVER.

There were nine cases and one carrier of typhoid infection notified. Many of these infections were acquired from overseas sources as indicated by the following individual reports of cases.

One related to a 50-year-old Greek migrant woman who developed bacteraemia following cholecystectomy. Another was found in a 12-year-old boy who became ill shortly following a visit by his grandparents from Italy. An 18-year-old Indonesian student acquired his infection shortly before leaving for Australia and a 51-year-old man developed fever with a suspicious Widal reaction following a visit to a holiday resort in Victoria.

An acute infection for which no source was found was suffered by a 31-year-old woman. Two other imported cases were reported one being a seaman and the other a traveller returning from Indonesia. A further case was reported in an 8-year-old boy who acquired his infection whilst holidaying in Italy and a 21-year-old Timorese refugee woman was found to be a carrier on routine screening. In addition a 14-year-old boy became ill three days after his arrival from Lebanon and there was one case of Paratyphoid Fever type B involving a 34-year-old man.

## IMPORTED DISEASES.

Notifications for Malaria (48) are the highest on record, an increase which has also been observed in South and Western Australia.

The overseas countries thought to be the source of infection were :—

New Guinea	..	..	..	..	18
Indonesia and Timor	..	..	..	..	14
India and Sri Lanka	..	..	..	..	3
South East Asia	..	..	..	..	3
Africa ..	..	..	..	..	3
New Hebrides	..	..	..	..	1
Uncertain	..	..	..	..	6

Most of the cases were *Plasmodium Vivax* and were treated at Fairfield Hospital. The one *Falciparum* infection was acquired by a traveller in West Africa who did not continue his Chloroquin prophylaxis for six weeks following his return home.

The increase in the notifications of Malaria has caused considerable stress on the facilities available to both the Department and Fairfield Hospital. The Commission reiterates statements made on a number of occasions during recent years that the Commonwealth Department of Health should ensure that travellers arriving in Australia after travelling in malarious areas receive adequate medical examinations before they enter the country.

Other imported diseases were likewise chiefly reported by Fairfield Hospital and were as follows :—

Leprosy	..	..	..	..	4	(2 from India and 1 each from South Africa and Malta)
Amoebic dysentery	..	..	..	..		(3 from India)
Typhoid fever	..	..	..	..		(see above)
Hepatitis B	..	..	..	..	6	
Dengue fever	..	..	..	..		(1 case from South East Asia)
Bilharziasis (schistosomiasis)	..	..	..	..		(1 case from Mauritius)

An outbreak of gastroenteric infection by *Salmonella oranienberg* occurred in air travellers from Europe in mid-September. Those affected were treated or placed under medical surveillance and the Australian Health Department and the airline concerned were notified. From food histories obtained from passengers it appeared that food eaten or taken on at Rome airport was the vehicle responsible though the specific food item could not be identified.

In early September, 1975, close to 400 Timor evacuees were billeted in Melbourne migrant hostels. Screening for medical problems by departmental officers revealed a fairly high rate of tuberculosis infection (reported elsewhere) and there was also evidence of high rates of past or present treponemal infections and parasitic intestinal infections. Appropriate management was given either at Fairfield Hospital or on an ambulatory basis. The question of liaison and co-operation with Federal Authorities was raised as a result of this exercise.

#### GASTRO-ENTERITIS.

Mention has been made above of imported infection which emphasised the risk of consuming food and drink of doubtful cleanliness whilst abroad. At home the risk, while not as high, is nevertheless real if the number of notified food poisoning cases (35) is to be taken as an indication. The most significant and recent outbreak involving 53 cases (11 officially reported) occurred in May, 1975. They came from a wedding party of about 200 guests and some were shown to be infected by *Salmonella Bareilly*. Both meat and trifle served at the meal were incriminated.

Other *Salmonella* infections reported (20) were chiefly *S. typhimurium* and involved the younger age groups during the warmer months.

Bacillary dysentery cases were 41 for the year, 25 of which came from a State institution for children.

The annual winter epidemic of gastro-enteritis amongst infants became widespread in Melbourne in June and persisted until October. It is now known to be caused by a virus morphologically identical with and serologically related to the viruses causing diarrhoea in mice, calves and pigs. The virus is being sought and detected in laboratories throughout the world but so far has resisted all efforts at cultivation "in vitro".

#### ENTEROVIRUS INFECTIONS.

The number of admissions of patients with viral meningitis to Fairfield Hospital provides a useful indicator of the prevalence and nature of the infection throughout the community. The epidemic is in summer and in 1974-75 was due to a variety of viral strains including ECHO virus types 7, 16, 21 and 30 and Coxsackie virus B 2.

During the 1975-76 summer the prevalence was less and the viruses isolated included Coxsackie Virus type B 4 and ECHO Virus types 19, 21 and 30. No single strain predominated.

#### RESPIRATORY VIRUS INFECTIONS.

The prevalence of these infections as judged by Fairfield Hospital admissions was low during the Summer months. By May 1975 there was an increase in the number of infants requiring hospital treatment for croup due mainly to M. Parainfluenza Type 1. At this same time there was seen the beginning of the annual winter epidemic of bronchiolitis due to Respiratory Syncytial Virus. In June the epidemic had reached its peak and about 30 strains of the Virus were isolated from patients. In very young babies bronchiolitis may cause severe respiratory distress necessitating treatment in oxygen tents or cribs. The symptoms are often aggravated by secondary bacterial lung infection.

The overall prevalence of pneumonia and other respiratory diseases in adults and children was low during the winter months and this was partly attributed to the low incidence of influenza type A virus infections in the community. A small outbreak of influenza type B occurred in early Spring owing perhaps to the inclement weather at that time. The type A strains that finally emerged late in the year were shown to be the new strain type A/Victoria/3/75. It was predicted that this strain would exhibit similar epidemic behaviour during the coming winter months as it had done in the 1975 Northern Hemisphere cold season.

By early winter of this year Fairfield Hospital reported that the clinical diagnosis of influenza was becoming more frequent and the number of strains of influenza virus type A/Victoria/75 isolated in its laboratory had increased from ten in April to 86 during May. It is anticipated that by mid-year the epidemic will have started to decline.

## TUBERCULOSIS.

### *Introduction and Review.*

Victoria's estimated population at June 30th, 1975 was 3,669,700.

There were 291 new notifications during the year, compared with 321 in 1974, corresponding rates per 100,000 population being 7.9 and 8.8. In addition there was a small decrease recorded for persons with reactivated and chronic active tuberculosis. In all, the total case load was 323 persons with active tuberculosis, 37 less than in 1974.

TABLE 1.

Year.	Active Cases.				
	New.	Rate per 100,000.	Reactivated.	Chronic.	Total.
1964 .. .. .	820	25.93	72	86	978
1965 .. .. .	790	24.50	84	66	940
1966 .. .. .	649	19.98	78	59	786
1967 .. .. .	599	18.13	80	49	728
1968 .. .. .	535	15.94	57	38	630
1969 .. .. .	497	14.50	44	38	579
1970 .. .. .	421	12.11	61	33	515
1971 .. .. .	416	11.78	23	19	458
1972 .. .. .	371	10.42	42	15	428
1973 .. .. .	369	10.25	38	10	417
1974 .. .. .	321	8.81	31	8	360
1975 .. .. .	291	7.93	29	3	323

Of the new cases reported, 45 per cent were born outside of Australia ; most of these were non-British and 21 of them came to Australia within a year. This emphasises the continuing need for adequate screening for tuberculosis before entry to Australia, or on arrival.

The present screening programme is working smoothly and brings to attention many who require closer supervision during the period of stress whilst settling into their new country. A large proportion of the present work at our chest clinics is now involved in this activity.

As in 1974, three X-ray caravans instead of six are being used for compulsory mass chest X-rays, so that the interval between surveys will steadily increase. Whilst surveys have not been undertaken for 5-6 years in some areas of low tuberculosis incidence, other areas appear to warrant surveys continuing at shorter intervals. The small decline in reported new notifications for 1975 may be partially associated with this policy.

Comment was made in the Annual Report for 1974 of the unpredicted tuberculosis incidence in certain situations. This year produced other marked contrasts.

As a result of continuing reports of active tuberculosis from mental hospitals over an eighteen month period, a decision was taken to carry out chest X-ray surveys in all major mental institutions in Victoria. During 1975, 15 institutions were visited and 6,128 persons X-rayed, but only two persons with possible active tuberculosis were brought to attention by the surveys. However, a survey of a hostel in the inner metropolitan area for less fortunate males involving 203 persons resulted in 13 persons being sought with possible active tuberculosis. The majority of these unpredictable persons with alcohol and other problems and their further investigation and management is proving extremely difficult and very time consuming.

In contrast with the Bendigo mass X-ray survey of 1974, which revealed ten persons with active tuberculosis, was that carried out at Geelong early in 1975. In both surveys all persons recalled from the initial micro film survey, as well as those who missed the survey, were directly referred to the local chest clinic for follow-up. At Geelong only five bacteriologically proven cases of pulmonary tuberculosis were found.

### *Vietnamese and Timorese Evacuees.*

During the year, the Branch took part in the medical screening arranged for two groups of evacuees from South Vietnam and East Timor.

Those who came from Vietnam were mainly babies or young children and were admitted directly to Fairfield Infectious Diseases Hospital. Tuberculin testing was the initial responsibility of the Branch and subsequently tuberculosis control measures were organised for those who remained in Victoria. In all 117 children were cared for and special attention was given to 23. Generally, the new foster parents were most co-operative and understanding in relation to the management programme instituted.

Later in the year as a consequence of the troubles in East Timor the sudden arrival of some hundreds of men, women and children took place in Darwin and they were soon relayed to various States. Those coming to Melbourne were initially housed at three migrant hostels. They comprised mainly Timorese or Chinese background. There was no time for preliminary planning, nor were nominal rolls immediately available; a few were sick, and only three or four spoke English. Communication was most difficult but the Tuberculosis Branch undertook the screening programme for tuberculosis.

In all, 384 persons were examined; 16 persons were admitted to Heatherton Sanatorium for investigation and eight of them were notified as probably having active pulmonary tuberculosis; three were bacteriologically positive, one who had previously had inadequate treatment in Timor showed organisms resistant to streptomycin and isoniazid. The others who had radiological evidence and were tuberculin reactors were given "triple" chemotherapy during their sanatorium stay. In addition, others were given chemoprophylaxis with isoniazid as out-patients. These included three babies under a year with large tuberculin reactions.

Almost half the East Timor evacuees were less than 15 years of age and only 3 per cent were over 60 years. Tuberculin screening revealed that 32.7 per cent. of those under 15 years were positive reactors and 74 per cent. of those over this age. There was little evidence of previous B.C.G. vaccination. Routine chest X-rays indicated 5.7 per cent. with abnormalities.

#### *Medibank.*

On 1st September, the costs of treatment of patients for tuberculosis were absorbed into the Australia-wide Medibank Scheme at all hospitals except Heatherton Sanatorium.

#### *Heatherton Sanatorium.*

The total capacity at Heatherton Sanatorium is 259 beds, of which 85 were released for use by the Alcohol & Drug Dependent Persons Services Branch and 22 to Prince Henry's Hospital. However, the average bed occupancy by patients has been only 116.04 which has a direct influence on daily bed costs.

#### *Staff.*

The difficulty in recruiting medical staff continued throughout the year and appreciation is expressed to staff who carried the extra work loads and to those retired staff and some others who have assisted on a sessional basis, at times on short notice.

#### *Retirement.*

Dr. Keith Cowen joined Gresswell Sanatorium in 1945 as a resident medical officer. Subsequently he has worked at all metropolitan sections of the Tuberculosis Branch and was appointed Deputy Director in 1961. With his vast clinical experience, sound judgment and willingness at all times to help, his retirement leaves a gap in the service.

#### *Notifications.*

During 1975 there were 291 new cases of tuberculosis notified, a rate of 7.93 per 100,000. Of these 227 (78 per cent.) were pulmonary cases and 64 (22 per cent.) were extra-pulmonary. 74.6 per cent. of all cases were bacteriologically proven, pulmonary (79 per cent.) and extra-pulmonary (59.4 per cent.). There were 182 males (62.6 per cent.) and 109 females (37.4 per cent.).

Bovine type myco-bacteria were isolated from two patients.

There were five new cases reported from whom a typical myco-bacteria were isolated.

#### *Age Groups.*

The distribution of notifications in the age group below has shown a slight shift from the older age groups this year. The figure for children under 15 years is 11 per cent. of the total.

24 per cent. of all new cases were 60 years and over.

70 per cent. of all new cases were 35 years and over.

42 per cent. of all new pulmonary cases were males 35 years and over.

52 per cent. of all new pulmonary cases were 50 years and over.

### *Migrants.*

Of the year's notifications 45 per cent. were from persons born outside Australia, i.e. 131 cases. The 1971 census figure shows that 22·8 per cent. of the Victorian population was born outside Australia. Twenty persons were British and 111 non-British. Twenty one cases (16 per cent.) were reported in persons within one year of their arrival (20 non-British) ; of the 64 extra-pulmonary cases reported, 39 were born outside Australia and two of these were British.

### *Extra-Pulmonary Tuberculosis.*

There were 64 cases reported. Tuberculosis of the renal and genital organs continues to be the most common—31 cases. There were seven cases of bone and joint tuberculosis and three cases of meningitis. Tuberculosis of lymph glands is still fairly common and usually occurs in children ; 20 cases were reported ; some of these are due to atypical myco-bacterial infection.

### *Source of Notification.*

Mass X-ray surveys were responsible for 47 cases (21 per cent.) of the pulmonary forms. Hospitals were credited with 84 (29 per cent.) of the total and private medical practitioners were responsible for 67 (25 per cent.). State Clinics reported 66 cases (23 per cent.). There were nine notifications from death certificates.

Five cases were reported from Mental Hospitals and one new case was detected by the routine survey of inmates on entry to Pentridge.

### *Reactivation.*

There were 29 persons previously notified whose tuberculosis again became active after at least three years stability. Twenty-one were bacteriologically proven at relapse. Pulmonary relapse occurred in 24 cases and extra-pulmonary in five. Thirteen of the cases had been stable for fifteen years or longer, six had no previous chemotherapy and twelve had chemotherapy for less than two years. Only eleven on review were considered to have had satisfactory courses of chemotherapy.

In addition, there were five cases whose lesions again became active after periods of stability from one to three years.

### *Case Register.*

On 31st December, 1975, the Case Register for active cases had 1,689 cases recorded of whom 1,472 had pulmonary and 217 had extra-pulmonary disease. Four hundred and ninety-two listed names were removed from the Register during the year. Seven hundred and eighty patients were receiving chemotherapy.

The Case Register continues to be an important adjunct to tuberculosis control, especially aiding supervision of persons changing their places of living, and those who carry a higher risk of relapse, or risk to others if they relapse, e.g. kindergarten workers, school teachers, etc. Special lists of names of such people are kept to enable closer supervision.

Appreciation is again acknowledged for the co-operation of the staffs of the Bacteriological Laboratory at the Fairfield Hospital and the Repatriation Department and to many private medical practitioners who supply us with information in this important work.

### *“Chronic Positive” Cases.*

A record is maintained of patients who are known to have had active disease with positive bacteriological examinations for twelve months or longer. At 31st December, 1975, there were three “Chronic positive” cases, one person excreting atypical myco-bacteria.

### *Deaths.*

The figure supplied by the Commonwealth Bureau of Statistics for deaths is not yet available. Records of those having died during the year included only 14 persons who had had evidence of active tuberculosis at death or within the previous six months. The average age at death was 63·9 years.

### *Tuberculosis Allowances.*

The Tuberculosis Allowance is a special allowance payable through the Commonwealth Department of Social Security and is primarily intended to encourage and enable those with active and infectious or potentially infectious tuberculosis to cease work and accept treatment.

At 31st December, 1975, there were 68 persons being paid the Tuberculosis Allowance, compared with 73 at the end of 1974. Of these persons 53 were men and 15 were women, 25 were receiving in-patient care and 43 were out-patients. There were 56 (82·4 per cent.) in receipt of the Allowance for less than one year and 12 between one and two years. For those receiving the Allowances for less than a year, the average duration of payment was 4·5 months and of the 126 cancelled during the year, 79 returned to work, 36 transferred to other social welfare benefits, and the others were for various reasons.

### *Mass X-Ray Surveys.*

During the year surveys were undertaken in thirteen electorates and 401,397 miniature X-rays were taken. There were 46 persons with active tuberculosis discovered—a rate of .11 per 1,000 X-rays, 142 cases of cancer in the lung, a rate of .35 per 1,000 X-rays, and 45 cases of sarcoid—a rate of .11 per 1,000.

Technical faults from the caravan units were recorded at a rate of 0.29 per 1,000 films. The recall rate from 70 mm films was 5.4 per 1,000.

### *Doctors referrals.*

For persons referred by doctors to the Division of Chest X-ray Surveys for X-ray examination 92 showed pulmonary abnormalities and were four found to have active tuberculosis and 19 considered to have significant inactive lesions.

### *Pentridge.*

Routine chest X-ray examinations of inmates on entry to Pentridge continued and during the year 1,730 X-rays were taken, but owing to internal problems the numbers are low. One active case was found. In the 8½ years of operation of this service 23 cases have been located from 17,336 persons examined—a rate of one active case for every 754 X-rays.

### *Tuberculin Testing—B.C.G. Vaccination.*

Tuberculin testing has continued in schools with pupils above Grade 6, i.e. 12 years old and above. B.C.G. vaccination is offered to the negative reactors. The present programme permits visiting all areas of the State every three years and consent rates for pupils last year were 95 per cent. In all 92,645 pupils were examined over the year, yielding a natural positive reactor rate of 1.6 per cent., and 61,166 pupils were vaccinated. Of 31,438 pupils vaccinated in previous years, 75.1 per cent. showed positive tuberculin reactions.

### *Rates for school children.*

Age 12 years 16,437 tested 1.2 per cent. natural reactors : 1974 1.2 per cent.  
 Age 13 years 18,098 tested 1.1 per cent. natural reactors : 1974 1.5 per cent.  
 Age 14 years 17,703 tested 1.4 per cent. natural reactors : 1974 2.0 per cent.

### *Post B.C.G. re-examination.*

All ages and groups—

(3/12 to 12+ years after vaccination) .. 2,951 tested 86 per cent. +ve : 1974 : 90 per cent.

Contacts and others—

(3/12 after vaccination) .. .. 992 tested 92 per cent. +ve : 1974 : 94 per cent.

In addition “all age” surveys of primary school children were carried out in three city municipalities, Melbourne, Port Melbourne and South Melbourne. The consent rate was 96 per cent. Seven thousand one hundred and fourteen pupils were tested and the natural reactor rate was 1.01 per cent.

Surveys have also been made of various other groups, including one contact survey in a Primary School—in all 96,270 were examined and 62,449 vaccinations performed during the year.

### *Bacteriology.*

Reliable bacteriological support is essential in tuberculosis detection and control. Appreciation is again expressed for the co-operation and help given by the staff of the Tuberculosis Laboratory at Fairfield Hospital.

As in 1974 this year's report does not include isolation from cultures carrying over into 1975.

During the year the Laboratory's work resulted in :—

14,814 direct smear examinations,  
 15,290 cultural examinations,  
 140 animal inoculations,  
 2,021 sensitivity tests

Isolations of tubercle bacilli were detected from 203 patients of whom 176 were new cases, 12 were “carry over” cases from the end of 1973, 13 were from reactivated cases, and 2 were from persons with chronically active tuberculosis.

Sensitivity tests included all new patients, relapses and reactivations against streptomycin, isoniazid, P.A.S., ethambutol and rifampicin. No cases of primary resistance to thembutol or rifampicin were detected.

#### *Primary Resistance.*

There were nine cases of primary resistance detected, seven were from migrants. In the past twelve years there have been 121 cases of primary resistance detected and 78 of these persons were born outside of Australia.

#### *Resistance after Chemotherapy.*

Seven patients previously treated with chemotherapy showed resistance to one or more drugs. Of these two were listed as "chronic positives" and four were reactivations and one developed resistance during treatment.

#### *Bovine Type.*

Two isolations were identified. (One male adult with pulmonary disease and one female with uterine disease.)

#### *Treatment.*

Dr. Keith Cowen submitted his final report just prior to retirement in November. Extracts from this follow.

In recent years searches have increased for methods of treating tuberculosis patients which are more acceptable, but no less effective. Stimulus has come from the recent availability of Rifampicin and Ethambutol and the continuing research relating to the action of available drugs. However, other pressures arise—lack of medical and nursing personnel experienced in tuberculosis, economic factors, and the changing of community and patient towards the delivery of medical services. "Tuberculosis Services" in isolation are fading.

In our environment, any alternative service must have a standard of "excellence" as our results in the past using "standard" treatment with minor variations have generally approached this high level.

Dr. Cowen commented, "We need a chemotherapeutic regime of optimum efficiency which can be effectively delivered within the bounds of the present Tuberculosis Service and will be effective in the hands of personnel who may be in terms of tuberculosis experience, 'barefoot doctors'. The parameters of such a regime—that it be 'curative', simply administered, of minimal toxicity and maximum patient acceptance—are sometimes mutually incompatible."

Many trials are being reported throughout the world which indicate optimistic prospects, but still await the test of "time", and more especially the suspicion that the patients and conditions reported are not representative of our own. An impression gained is that the patients included in these trials are commonly acutely ill, relatively young, co-operative and available or controllable; unfortunately many of ours are none of these things. As our aim is "cure" this aspect is of prime importance and "tailoring" to meet the circumstances should be minimal.

Dr. Cowen reviewed treatment used at Heatherton Sanatorium during 1975 and until the end of October there were 179 patients. Of these 152 had regimes including Rifampicin and Isoniazid, 71 had Streptomycin as well. Of the remaining 27, 17 had regimes including Streptomycin and Isoniazid and one had Pyrazinamide.

These patients received the most potent drugs available for their initial treatment over an average period of three months prior to discharge. Their future prognosis may still be influenced by change of drugs due to intolerance or toxicity—or to irregular or shortened courses directly due to the patients own attitudes.

These problems continue to be the major factors associated with relapse in the future.

#### *Chemoprophylaxis.*

One hundred and thirty six persons commenced courses of chemotherapy as a prophylactic agent against tuberculosis. These were mainly young people who were known to have had recent contact with an open case of tuberculosis or school children with large tuberculin reactions.

#### *Institutions.*

The beds available in Victoria for tuberculosis are recorded as 302, including 23 at the Repatriation Department, but many are used for other purposes. Usually, there are about 120 beds used for tuberculosis patients. A recommendation has been made to release 26 more beds at the Geelong Hospital for other purposes.

### *Bureaux and Clinics.*

The policy to rationalise the prolonged surveillance of certain groups at chest clinics has continued, and a further drop is recorded in attendances—52,893 in 1975 compared with 56,848 during 1974. Routine B.C.G. vaccination of aboriginal children as early in life as possible is proceeding throughout the rural areas of the State.

The Prahran Chest Clinic now serves a population of approximately 465,000. There were 9,864 attendances during the year including 1,482 at public X-ray sessions. Sixteen new cases were reported, three with reactivated tuberculosis. In addition there were a further 26 notifications and three reactivations from other sources in the area. Mass X-ray Surveys were conducted in only a part of this area during the year.

The estimated population served by the Northern Suburbs Chest Clinic is 494,500. Attendances recorded were 14,397 including 2,373 at public X-ray sessions. 21 new cases were discovered and five with reactivations. In addition there were 31 new notifications from other sources in the area. No mass X-ray surveys were conducted through the area during 1974.

The country bureaux at Ballarat, Bendigo and Geelong continue satisfactorily. The attendances at Ballarat were recorded at 2,662 during the year, and 5 new active cases of tuberculosis were discovered. At Bendigo attendances were slightly less, 1,460. Twelve new notifications of active tuberculosis and two new reactivations were reported from the Northern Health Area. At Geelong, there were 6,382 attendances recorded, including 2,712 at public sessions. Sixteen active cases of tuberculosis were discovered.

Outpatient clinics are also conducted in association with the treatment centres at seven other Base Hospitals and special clinics conducted by Department Medical Officers continue periodically at Traralgon, Moe, Wonthaggi, Swan Hill and Robinvale. Five hundred and twenty-two persons attended these clinics.

Appreciation is extended to all the part-time medical practitioners who accept responsibility for tuberculosis control and care of patients in these country areas.

### *Visiting Sisters.*

The liaison work carried out between patients and medical officers by the Visiting Nurses continues as one of the most important aspects of the Victorian Tuberculosis Service, both in the country and city areas. The routine of contact survey work and seeking out and persuading those reluctant to attend for medical review are ever necessary.

The Visiting Sisters continue to take increasing responsibility in patient supervision, especially for patients taking chemotherapy. With an increasing proportion of patients with active tuberculosis being reported from private practitioners and public hospitals the Visiting Sister at times is the only direct contact the Branch has with these patients to bring to attention facilities or benefits available to them through Department resources, such as supply of drugs, contact surveillance, etc.

### *Social Work.*

The activities of the Social Worker this year followed a similar pattern to 1974, the help given involving 226 new patients and 84 old patients, most of them requiring continuing support. Financial assistance continues to be the greatest problem, and appreciation is acknowledged for the help received from the Commonwealth Department of Social Security and the Victorian Tuberculosis Association.

Placement problems for elderly patients on discharge from Heatherton Sanatorium have increased as long waiting lists are general for these types of homes. The numbers of "Homeless Alcoholics" have increased causing more problems during and after sanatorium care. Staff of the Gill Memorial and Gordon House have been very co-operative with their assistance to this group of unfortunate people. Support has also been arranged through Municipal Councils in areas involving "Meals on Wheels" and "Home Help".

The Housing Commission has again given assistance to cases referred to them on a priority basis. Two single pensioners without accommodation on discharge from Heatherton were given flats and a family on a low income in crowded accommodation and creating social problems was assisted.

There have been more children admitted to Heatherton Sanatorium for treatment this year and continuing formal education has been arranged through the Education Department Correspondence School for those of school age. Amongst these were several child evacuees from Timor, as well as other children of non-English speaking families. Through the aid of the school teacher and the English classes for migrants at Heatherton all those children have adapted themselves easily to their new environment and rapidly learnt basic English.

As usual, the Tuberculosis Branch has been most fortunate in having the continued support of friends of long standing and our appreciation and special thanks are expressed to the Victorian Tuberculosis Association, the "Herald" Toy Fund, and the Wool-workers Section of the Camberwell Country Womens Association. Appreciation is also extended to those who have given clothing and other goods.

SUMMARY OF TUBERCULOSIS STATISTICS—VICTORIA 1975.  
POPULATION 3,669,700 (Estimate June 30th, 1975).

Year.	Notification of New Cases.		Deaths.		Tuberculosis Allowances paid at December 31st.	Mass X-ray surveys.		School Tuberculin Survey.		No. of Beds available at Sanatorium and Chalets.	Average stay in Sanatorium days.
	Number.	Rate per 100,000.	Number.	Rate per 100,000.		Number X-rayed.	Possible Active Tuberculosis.	No. Mantoux Tested (O.T.—10 T.U.) *(P.P.D.—10 I.U.)	+ve reactors at age 14.		
1948	..										
	677	32.37	641	30.65	1,368 (State Scheme)	150,000	..	..	..	735	252
1951	1,030	44.20	407	17.88	2,039	277,938	767	20,524	18.0	1,134	326
1954	1,046	46.59	245	9.99	1,453	463,210	621	17,869	10.3	1,172	285
1957	813	30.40	145	5.37	793	437,796	194	29,161	8.1	782	144
1960	863	29.50	138	4.70	444	380,598	194	40,400	6.9	744	141
1961	698	23.32	127	4.35	406	405,913	190	47,145	4.7	744	155
1962	781	25.65	101	3.35	411	456,559	185	47,338	3.9	744	160
1963	888	28.80	109	3.55	390	478,861	255	48,680	3.3	744	165
1964	820	25.93	121	3.84	290	428,306	286	75,897	4.1	729	138
1965	790	24.50	106	3.29	292	596,994	288	78,945	4.1	715	139
1966	649	19.98	128	3.94	223	662,576	252	90,643	4.0	705	132
1967	599	18.13	93	2.82	235	641,974	235	72,636	5.5	705	135
1968	535	15.94	68	2.03	189	663,707	211	90,116	2.5	686	137
1969	497	14.50	61	1.78	160	672,925	185	89,541	2.6	672	124
1970	421	12.11	48	1.37	113	671,914	119	81,405	2.1	496	117
1971	416	11.78	61	1.73	91	694,459	138	*93,933	3.2	384	120
1972	371	10.42	52	1.44	127	652,752	95	*96,249	3.2	340	96
1973	369	10.25	45	1.23	80	598,721	81	*87,495	2.1	340	102
1974	321	8.81	52	1.41	73	354,256	70	*92,265	2.0	302	101
1975	291	7.93			68	401,397	46	92,645	1.4	302	99

POLIOMYELITIS AND ALLIED DISEASES.

Incidence of Poliomyelitis.

No case of poliomyelitis was reported for the 1975 calendar year.

Distribution of Sabin Vaccine (Oral).

A total of 333,610 doses were issued during the year making the total number of doses now distributed throughout Victoria 7,189,030.

After-care Treatment.

Help in the form of orthopaedic supervision and physiotherapy services has continued to be given to those patients still in need of this assistance.

In some instances these patients, who suffered in past epidemics, have been in receipt of help for many years. Others, who have possibly come from overseas, or from other Australian States, have been recently referred to the Division.

Financial help in the purchase of splints and appliances is also given in appropriate cases. In the case of patients who are in receipt of a pension, no further means test is applied.

Some services are also available to sufferers from multiple sclerosis and diseases allied to poliomyelitis, e.g. polyneuritis. Additional referrals to the Division during the year under review are as follow :—

Poliomyelitis .. .. .	36
Multiple Sclerosis .. .. .	14
Polyneuritis .. .. .	1

Other Activities of the Division.

The physiotherapy staff has continued to provide assistance in some Mental Health Centres. These include the Larundel and Sunbury Hospitals and the Janefield Special School at Bundoora. Periodic visits are also made to some sections of the Training Centre at Stawell.

The Division's physiotherapists are also attending regularly at the Allambie Reception Centre of the Social Welfare Department. Their work at some of the ante-natal clinics, conducted by the Maternal and Child Welfare Branch has continued.

Work in the field of the developmental problems in children of the 0-6 age group has been considerably increased during the year. In addition to regular attendance at the City of Knox, physiotherapists are attending in the following areas :—

- Diamond Valley
- South West Region (centred at Warrnambool and Hamilton)
- Central Highlands (centred at Ballarat)
- Central Gippsland (centred at Morwell)

Assistance in other community health projects in the care of children, conducted by the Melbourne City Council, is being rendered. Similarly in the Benalla area, help is being given by a Divisional physiotherapist, who has been appointed to act on a regional basis. This officer also assists in the treatment of poliomyelitis and multiple sclerosis patients of any age group who live in this area.

Assistance is being given to some children, classified in the Specific Learning Difficulties group. These cases are referred through medical officers of the School Medical Service.

The number of treatments given to patients suffering from poliomyelitis and multiple sclerosis during the year has been :

Lady Dugan Centre (Malvern) .. .. .	1,777
Fairfield Hospital .. .. .	1,360

IMMUNISATION MATERIAL ISSUED TO MUNICIPALITIES 1975-76.  
(with figures for 1974/75 for comparison).

Material.	Number of Doses.	
	1975-76.	1974-75.
Measles Vaccine .. .. .	88,633	79,049
Rubella Vaccine .. .. .	44,610	66,424
Sabin Vaccine .. .. .	33,710	342,610
Triple Antigen .. .. .	258,847	280,152
A.D.T. .. .. .	47,216	54,456
Combined Diphtheria Tetanus Prophylactic (C.D.T.) .. .. .	98,043	105,371
Purified Tetanus Toxoid (A.P.A.) .. .. .	16,287	15,686
Smallpox Vaccination .. .. .	21,766	27,801
Schick Test Toxin .. .. .		40
Diphtheria Prophylactic (P.T.A.P.) .. .. .	1,015	390

VENEREAL DISEASES.

Table 1 indicates the attendance figures for new patients at the Government Clinic for the year, and for the previous nine years, including the number of patients diagnosed as suffering from syphilis and gonorrhoea.

TABLE I.—NEW PATIENTS AT THE GOVERNMENT CLINIC.

Year.	Attendance of new Patients.			Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1966 .. ..	2,699	919	3,618	814	314	1,128	29	3	32
1967 .. ..	3,124	1,244	4,368	824	381	1,205	33	4	37
1968 .. ..	3,015	1,201	4,216	734	335	1,069	40	5	45
1969 .. ..	3,016	1,167	4,183	796	372	1,168	70	8	78
1970 .. ..	3,329	1,546	4,875	952	721	1,673	38	4	42
1971 .. ..	3,558	1,639	5,197	1,014	659	1,673	34	10	44
1972 .. ..	4,309	2,095	6,404	1,009	832	1,841	38	8	46
1973 .. ..	4,690	1,991	6,681	868	809	1,677	26	9	35
1974 .. ..	5,392	2,092	7,484	933	714	1,647	41	5	46
1975 .. ..	6,406	2,415	8,821	1,120	590	1,710	59	8	67

Table II. presents similar statistics for the past six months (January 1st to 30th June, 1975).

TABLE II.—NEW PATIENTS AT THE GOVERNMENT CLINIC FOR THE FIRST SIX MONTHS OF 1975 AND 1976.

Year.	Attendance of New Patients.			Gonorrhoea.			Syphilis		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1975 (6 months) January-June .. ..	3,267	1,260	4,527	610	317	927	10	2	12
1976 (6 months) .. .. .	3,286	1,163	4,449	534	233	767	33	3	36

As in previous years, the number of new patients attending the section continues to steadily increase, particularly on the female side, whilst figures for the first six months of 1976 are comparable with the corresponding period of the previous year. These figures relate to the number of new patients presenting for examination at the Clinic, and it should be appreciated that most patients attend on several occasions before they are discharged as cured.

It can be seen therefore that there is a large turnover of patients each week, with up to one hundred or more patients seen on some days, including various diagnostic procedures, such as smears, cultures, blood tests, etc., examinations and treatments ranging from oral medication to intra-muscular injections, plus contact tracing procedures. It is estimated that approximately ten thousand blood tests are taken, five thousand intra-muscular injections administered and twenty thousand smears examined each year.

Figures in Table III cover total notifications of cases of syphilis and gonorrhoea in the State of Victoria, with comparative figures for the previous nine years. Notifications for other venereal disease is negligible.

TABLE III.—VENEREAL DISEASES NOTIFICATIONS FOR VICTORIA.

Source.	Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.
Government Clinic .. .. .	1,120	590	1,710	59	8	67
Others— Metropolitan and Country .. ..	368	163	531	91	18	109
1975	1,488	753	2,241	150	26	176
1974 .. .. .	1,189	858	2,047	88	40	128
1973 .. .. .	1,038	893	1,931	56	88	144
1972 .. .. .	1,305	925	2,230	57	54	111
1971 .. .. .	1,345	734	2,079	61	38	99
1970 .. .. .	1,300	768	2,068	59	14	73
1969 .. .. .	1,175	450	1,625	97	54	151
1968 .. .. .	1,189	424	1,613	65	19	84
1967 .. .. .	1,361	485	1,846	59	33	92
1966 .. .. .	1,265	413	1,678	47	6	53

A study of the notification figures in Table III shows that the incidence of both gonorrhoea and syphilis has been fairly stable for the past six years. Syphilis notifications are up a little compared to the previous years, but the recent suggestions that we are in the grip of a syphilis epidemic are not accurate.

As has been stressed in previous reports, however, there is no cause for complacency with venereal diseases and vigilance is required at all times as excessive outbreaks can occur and quickly spread to large numbers of the population.

Intensive contact tracing and treatment of those at risk is still the best insurance against any major outbreak of these diseases. Because of the long incubation period of syphilis, prophylactic treatment of all contacts of a proven case of syphilis is attempted to give protection before the development of any symptoms.

As gonorrhoea has a very short incubation period, prophylactic treatment of all contacts, although desirable, is less effective.

A breakdown of cases into categories of age and sex is presented in Tables IV and V.

TABLE IV.

FEMALES.							
Government Clinic.				Rest of Victoria.		Total.	
Age Groups.	Attendances.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.
0-9 .. ..	..	..	..	..	1	..	1
10-14 .. ..	106	14	..	..	..	14	..
15-19 .. ..	910	242	2	43	..	285	2
20-24 .. ..	681	188	3	55	9	243	12
25-29 .. ..	341	81	2	29	2	110	4
30-34 .. ..	153	32	..	5	3	37	3
35-39 .. ..	88	18	1	2	1	20	2
40-44 .. ..	43	3	..	2	1	5	1
45-49 .. ..	35	9	..	1	..	10	..
50+ .. ..	58	3	..	..	1	3	1
				(Age Group as Unspecified)			
..				26	..	26	..
Total ..	2,415	590	8	163	18	753	26

TABLE V.

MALES.							
Government Clinic.				Rest of Victoria.		Total.	
Age Groups.	Attendances.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.	Gonorrhoea.	Syphilis.
0-14 .. ..	..	..	..	..	1	..	1
15-19 .. ..	892	216	..	21	1	237	1
20-24 .. ..	2,025	424	10	112	22	536	32
25-29 .. ..	1,692	242	14	107	25	349	39
30-34 .. ..	683	124	10	37	11	161	21
35-39 .. ..	451	55	10	20	13	75	23
40-44 .. ..	272	25	4	19	12	44	16
45-49 .. ..	210	16	6	5	3	21	9
50+ .. ..	181	18	5	8	2	26	7
				(Age Group as Unspecified)			
..				39	1	39	1
Total ..	6,406	1,120	59	368	91	1,488	150

There is no change in the overall pattern compared to previous years. The age incidence is in line with that found in the other States of Australia and in most countries of the world.

A further breakdown of the notification figures for syphilis by stages for the full year is shown in Table VI.

There is an overall increase in the numbers, but the general pattern follows an average distribution as regards infectious and latent stages.

TABLE VI.

Primary.		Secondary.		Early Latent.		Late Latent.		Congenital.		Total.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
65	2	50	8	35	14	..	1	..	1	176

Table VII shows the attack rate per 100,000 of the population and, as can be seen, this has been fairly level for the past five years.

The majority of cases of infectious syphilis in males still record their mode of infection as homosexual.

One case of congenital syphilis has been reported from Mooroopna Base Hospital, the mother having developed primary syphilis in the third trimester of her pregnancy. Treatment was given to the mother, and she was delivered of an apparently normal female infant. The child is under adequate surveillance by the hospital authorities.

TABLE VII.

Year				Venereal Diseases in Victoria.				
				Attack Rate per 100,000 of Mean Population.				
				Total Population.	Gonorrhoea.		Syphilis.	
					Number.	Rate per 100,000.	Number.	Rate per 100,000.
1917	..	..	..	1,417,000	5,448	384·5	2,657	187·5
1918	..	..	..	1,437,235	5,076	353·2	2,135	148·5
1919	..	..	..	1,503,035	5,743	382·1	2,343	155·9
1927	..	..	..	1,741,832	4,601	264·2	918	52·7
1928	..	..	..	1,761,746	4,613	261·8	1,024	80·6
1929	..	..	..	1,778,269	4,584	257·8	659	37·1
1944	..	..	..	1,997,954	1,916	95·9	428	21·4
1945	..	..	..	2,015,107	2,302	114·2	421	20·9
1946	..	..	..	2,039,769	2,575	126·2	452	22·2
1954	..	..	..	2,477,986	467	18·85	133	5·4
1955	..	..	..	2,546,332	573	22·5	180	7·1
1956	..	..	..	2,618,112	651	24·9	128	4·9
1964	..	..	..	3,161,537	1,302	41·2	59	1·9
1965	..	..	..	3,233,938	1,586	49·0	85	2·6
1966	..	..	..	3,247,478	1,821	56·1	56	1·7
1967	..	..	..	3,323,400	1,772	59·3	106	3·19
1968	..	..	..	3,384,100	1,580	47·7	96	2·85
1971	..	..	..	3,496,161	2,079	59·4	99	2·8
1972	..	..	..	3,547,400	2,230	62·8	111	3·1
1973	..	..	..	3,600,000	1,931	53·0	144	4·0
1974	..	..	..	3,645,300	2,047	56·1	128	3·5
1975	..	..	..	3,673,400	2,241	60·06	176	4·7

*Other Items relating to Venereal Disease management.*

Weekly visits to Fairlea Women’s Prison are still made and all prisoners have a routine blood test for syphilis. Those suspected of suffering from gonorrhoea or other sexually transmitted diseases are given a thorough examination.

As mentioned in last year’s report, the number of cases of venereal disease now diagnosed is low. Of the 229 prisoners examined 17 had gonorrhoea and none had syphilis.

It is proposed to do a further follow up on some of the cases of Lymphogranuloma Venereum examined during this survey in 1973 to see whether there have been any changes in their serology during this period. Only those who showed a significant titre will be included in the procedure.

Lectures and clinical studies are still being provided for Monash Medical students. Lecture and demonstrations are also given to various nursing groups, etc. and “rotating residents”, under a training scheme set up by the College of General Practitioners, attend at the clinic, usually for a period of two weeks for practical training in the management of venereal diseases.

Also, in conjunction with Dr. D. W. Rankin of the Health Education Section, various leaflets and other instructive material are prepared for distribution to the general public through both sections.

EXOTIC DISEASES HOSPITAL, FAIRFIELD.

At 31st December, 1975, there were 38 persons being treated for Hansen's Disease, 6 as In-patients and 32 as Out-patients. None of these persons acquired the disease in Victoria.

The following table shows the sex, nationality and source of infection of these patients.

In-patients.		Out-patients.		Nationality.	Source of Infection.
Male.	Female.	Male.	Female.		
..	..	8	1	Maltese .. ..	Malta
1	1	6	2	Anglo-Indian .. ..	India
1	..	..	1	Indian .. ..	India
..	..	2	..	English .. ..	India
..	..	1	1	Italian .. ..	Italy
..	..	..	1	Greek .. ..	Greece
..	..	..	1	Greek .. ..	Egypt
..	..	3	1	Sri Lankan .. ..	Sri Lanka
..	..	1	..	Seychelles Islander .. ..	Seychelles Islands
..	..	1	..	Lebanese .. ..	Lebanon
1	..	..	..	Malaysian .. ..	Malaysia
1	..	..	..	Australian .. ..	Palestine or Syria*
..	..	1	..	Australian .. ..	Borneo*
..	..	1	..	Australian .. ..	Vietnam*
1	..	..	..	South African .. ..	South Africa
5	1	24	8		

\* War Service

Out-patients receive regular medical examinations and supplies of drugs and the hospital is available to accept persons found to be suffering from other exotic diseases requiring complete isolation.

MICROBIOLOGICAL DIAGNOSTIC UNIT.

Enteric Organisms.

(a) Typhoid.

The incidence of this serious disease in Victoria has again fallen. Two cases acquired in the State were both phage Type A and both patients came from West Geelong. The first case occurred in a young child, whose grandparents had recently returned to Italy and whose father was reported to have had typhoid in 1960. A diligent search showed that family contacts excreted three different Salmonella serotypes but no source of typhoid was discovered. In the second case, in July, a search for a source of the causative organism was likewise unsuccessful.

Travellers, who became infected outside Australia and presented while in Victoria, made up the bulk of the cases. Two from Indonesia yielded phage types A and degraded, one each from Lebanon—E<sub>1</sub>, from Italy—C<sub>4</sub> and from Korea or Japan—M<sub>1</sub>. A lady with a history of typhoid while visiting Egypt four months previously presented with sub-acute cholecystitis in Melbourne and Salmonella typhi, phage type E<sub>2</sub>, was isolated from her gall-bladder.

Two Timorese refugees were found to be typhoid carriers—both phage type E<sub>1</sub>.

Cultures for phage typing were sent from five cases in other Australian states, one from Papua-New Guinea and from 98 cases in Tonga and 49 from the Philippines.

(b) Paratyphoid.

Cases caused by both Salmonella paratyphi A and B occurred in Victoria during the year. Paratyphoid A occurred in two travellers returned from Malaysia and Thailand and from Nepal, respectively. One case of Paratyphoid B (phage type Taunton) was diagnosed in an immigrant from Egypt and two cases—only one symptomatic—occurred in a family in Knox. The latter incident was caused by a phage type 3a I strain. No source of the infection was discovered. Twenty-four strains of Salmonella paratyphi B were sent from other states for typing. Two came from cases and the others from water and effluent. An additional three strains came from the Philippines.

(c) Other Salmonellas.

Eight hundred and twenty-eight cultures of Salmonella were handled for serotyping in the unit during 1975. Of these, 478 were isolated from humans in Victoria and 334 from such sources as egg pulp, chickens, water, meat products and other animals in Victoria. Salmonella typhimurium accounted for just over 50 per cent. of the total numbers of strains. Four serotypes new to Victoria were isolated, namely, Salmonella eimsbuttol, Salmonella fremantle, Salmonella kinondoni and Salmonella london—one strain each.

*Salmonella oranienberg* accounted for 10 per cent. of strains tested. This was almost entirely caused by an influx of imported cases—patients being infected while eating at a European airport restaurant en route to Australia.

A wedding reception, involving families from Ballarat and Bendigo, was the focus of an outbreak of food-poisoning caused by *Salmonella bareilly*. This serotype was also isolated from egg pulp.

Officers of the Department were specifically alerted about isolations of *Salmonella* give which appeared to be associated with maternity hospitals. While the subsequent investigation discounted this association, the value of a central reference point for *Salmonellas* was re-emphasized.

(d) *Shigellas*.

Of the 259 strains of *Shigella* spp. examined in the unit, 149 were from Victoria. The majority (63) of the other isolates came from the Health Laboratory at Townsville, where shigellosis continues to be a problem in the aboriginal population.

*Shigella sonnei* was the commonest species in all cases and all the South Australian strains received were of this species—sent for colicine typing. The colicine type 'Type O' has become even more dominant—to the extent that the usefulness of the colicine technique is being undermined.

(e) *Enteropathogenic Escherichia coli*

Serotyping of cultures continued with 40 strains being identified. Eleven different serotypes were found, with 026 K60 being the most common. Despite the emergence of tests for the production of enterotoxin there is strong evidence that the recognition of serotypes remains of importance. It seems clear that the full range of modes of pathogenicity of *Escherichia coli* remains to be elucidated.

(f) *Miscellaneous*.

A number of strains of Arizona (*Salmonella* sub-genus III) were identified from animal or environmental sources during the year.

*Gonorrhoea*.

The number of genital specimens examined continues to rise. The Government Clinic was the source of 10,645 specimens from 3,990 patients. Four hundred and fifty-six had gonorrhoea and 242 of the female patients had cervical candidiasis. The technique of supplying dated media for direct inoculation and preliminary incubation in a CO<sub>2</sub> atmosphere has simplified the clinic's work and improved results.

The Women's Health Collective, which operated during the year, sent a large number of specimens and the isolation rate of *Neisseria gonorrhoeae*, *Candida albicans* and *Trichomonas vaginalis* indicated that a need was being met.

Testing strains of *Neisseria gonorrhoeae* for the minimal inhibitory concentrations of penicillin, tetracycline and spectinomycin continued during the year. Just over 20 per cent. of strains have MIC's to penicillin of more than 0.5 micrograms/ml. and more than 57 per cent. had an MIC of 0.125 micrograms/ml. or more and are classed as relatively insensitive. This is similar to some figures from the United States but much worse than the prevalence of insensitivity in Europe. There is little evidence of insensitivity to spectinomycin developing although monitoring is clearly valuable.

The use of specific culture medium for *Trichomonas vaginalis* appeared to improve the rate of identification of this organism.

With the collaboration of the Government Clinic, an evaluation of a commercial "kit" for the diagnosis of gonorrhoea was evaluated and some shortcomings reported to the manufacturers.

*Water Bacteriology*.

Despite the monitoring of water samples from rural commercial premises the numbers of waters tested fell a little this year. One interesting project was for the isolation of salmonellas from a lake for the Environment Protection Authority and a number of techniques were attempted with reasonable success.

*Diphtheria*.

There was no outbreak of this disease during the year. Two non-toxigenic strains were isolated from young Timorese refugees and two strains were sent from interstate for identification.

### *Parasitology.*

The number of specimens examined increased very greatly. This was contributed to by the examination of numerous specimens from aboriginal people in the Swan Hill area after a young child was found to be suffering severely from giardiasis. Contrary to the findings of a survey of the Lake Tyers area some years previously, a number of people were discovered to be excreting cysts of *Entamoeba histolytica*. The significance of this in Australia is the subject of some debate. Furthermore, both faecal specimens and blood films from the Timorese refugees were examined. The latter were examined principally for microfilariae and concentration methods were employed. This was because the refugees had been given chloroquine which was likely to have eliminated malaria or reduced parasitaemia to sub-patent levels and because filariasis remains a problem in Timor. No microfilariae were found.

It is now becoming widely appreciated that examination of a single stool is notably inadequate for the detection of parasites even where associated disease is present and this increases the workload.

### *Food.*

In the absence of any large scale surveys, fewer specimens of food were examined in 1975. Seven samples of soft serve (or "thick shake") were examined as a consequence of the previous complaints. Twelve specimens of pepper were tested because of a complaint from a hospital which claimed that *Pseudomonas aeruginosa* was present. Low counts of *Pseudomonas* were found in specimens from the hospital only.

Apart from the *Salmonella* incidents mentioned above, a number of minor food poisoning incidents were investigated.

*Clostridium perfringens* affected a group of diners at a restaurant in Carlton. Cheese bought at a market proved to have very high counts of staphylococci.

Tinned hams purchased at a Ballarat supermarket proved to come from different batches. All specimens of a batch associated with a complaint proved to have unacceptable counts of *Streptococcus faecium* while other batches were satisfactory. The evidence linking this organism with food poisoning is not substantial but the patient in this case was treated at a hospital casualty department for diarrhoea and vomiting.

As in the past a lack of public co-operation in reporting outbreaks promptly and in providing specimens greatly impedes adequate investigation.

Specimens examined for suitability for consumption included tinned corned beef, pasties and cooked meats and fresh chicken was tested for antibacterial substances.

### *General.*

The identification of bacterial cultures, other than salmonellas and shigellas, referred from other laboratories took up a considerable amount of time and effort. Public hospitals and health laboratories contributed to the bulk of the work. Twenty-one strains of *Pseudomonas* spp.—the commonest being atypical forms of *Pseudomonas aeruginosa*—were examined among a very wide range of isolates.

A case of meningitis related to a child minding centre stimulated an investigation in which the media developed for the isolation of *Neisseria gonorrhoeae* were successfully employed for the meningococcus. Techniques for screening these isolates for sensitivity levels to sulphonamides, minocycline and rifampicin have been employed successfully.

Members of the unit and volunteer medical students assisted in collecting specimens from Timorese refugees at migrant hostels.

The importance of Chlamydia in non-specific urethritis is being increasingly recognised and a graduate student has commenced studies on the isolation and characterization of these organisms in local populations.

Apart from numerous consultations on a very wide range of microbiological topics by members of the staff, Miss Taplin addressed meetings of Health Inspectors and taught at a course in food hygiene run by the Australian Institute of Food Science and Technology. The Assistant Director lectured at the latter course, addressed the conferences of the Australian Institute for Medical Technology and the Australian Institute of Health Surveyors. He was nominated to attend a World Health Organisation-sponsored meeting at the Water Research Centre, Medmenham, England on the monitoring of deleterious substances in water. During this visit he consulted epidemiologists at Colindale concerning the proposed national microbiological reporting service and an immunologist about serological tests for taeniasis in Warsaw.

Despite a series of applications to granting bodies, adequate funds for the phage-typing of strains of *Salmonella typhimurium* have not been made available. Typing was much curtailed during Miss Taplin's prolonged sick leave and has always been dependent upon borrowing staff, temporarily, from other duties in the Department of Microbiology. This dependence on help from outside the unit was particularly evident in 1975 when the load of work was, at times, too great for the desired standards of thoroughness and promptitude to be achieved. Experimental work to determine bacterial multiplication in artificial cream, for example, would scarcely have been possible without the temporary secondment of a Scientific Officer from the Health Laboratory.

Through all this our relations with the officers of the Health Department remain at the usual excellent level.

### MICROBIOLOGICAL DIAGNOSTIC UNIT. ANNUAL EXAMINATIONS.

#### *A Comparison of Numbers for the Calendar Years 1974 and 1975.*

Examinations.								1974.	1975.
1. <i>Upper Respiratory Tract Infections</i> :—									
(a) Diphtheria									
(i) Cultural examinations	..	..	..	..	..	..	..	1,752	879
(ii) Isolations and identifications	..	..	..	..	..	..	..	4	4
(b) Haemolytic Streptococci									
(i) Cultural examinations	..	..	..	..	..	..	..	1,752	879
(ii) Groupings	..	..	..	..	..	..	..	136	109
(iii) Anti-streptolysin titre tests	..	..	..	..	..	..	..	129	130
2. <i>Enteric Infections (Salmonella and Shigella)</i> :—									
(i) Cultural examinations	..	..	..	..	..	..	..	1,995	1,817
(ii) Identifications	..	..	..	..	..	..	..	1,093	1,466
(iii) Bacteriophage typing ( <i>S. typhi</i> 175, <i>S. paratyphi</i> B 35, <i>S. typhimurium</i> 1131)	..	..	..	..	..	..	..	3,428	1,341
(iv) Widal agglutinations	..	..	..	..	..	..	..	710	831
3. <i>Serological Investigations</i> :—									
(i) Brucella	..	..	..	..	..	..	..	515	823
(ii) Glandular Fever	..	..	..	..	..	..	..	116	160
(iii) Leptospirosis	..	..	..	..	..	..	..	242	121
(iv) Typhus Fever	..	..	..	..	..	..	..	36	42
(v) Rubella H.I.	..	..	..	..	..	..	..	1,272	1,506
4. <i>General Bacteriological Examinations</i> :—									
(i) Cultures	..	..	..	..	..	..	..	3,137	4,608
(ii) Drug sensitivities	..	..	..	..	..	..	..	1,121	1,422
5. <i>N. gonorrhoeae and related infections</i> :—									
(a) <i>N. gonorrhoeae</i>									
(i) Smears	..	..	..	..	..	..	..	1,417	2,605
(ii) Cultural examinations	..	..	..	..	..	..	..	10,574	15,291
(b) <i>Trichomonas vaginalis</i>									
(i) Culture	..	..	..	..	..	..	..	..	69
6. <i>Medical Mycology</i> :—								102	197
7. <i>Water Examinations</i> :—								704	659
8. <i>Parasitological Examinations</i> :—								126	946
Totals	..	..	..	..	..	..	..	30,361	35,905

### HEALTH LABORATORY.

#### *General.*

The number of samples examined for the year exceeded 3,700, the largest ever handled in the division. There has, however, been no further staff appointed and the additional load has had to be borne by existing personnel. It is to the great credit of all staff members that such a large volume of work has been completed.

New equipment obtained during the year included a total organic carbon analyser. This instrument is used particularly for sewage analysis, and determination of organic carbon is becoming an adjunct to the traditional but rather empirical B.O.D. estimation. A carbon rod attachment which has been acquired for the atomic absorption spectrophotometer will significantly increase sensitivity in analysis of trace metals.

Staff chemists have been called to appear in court on a number of prosecution cases and have also been engaged in sampling of a number of trade effluents on behalf of the Health Commission prior to approval of E.P.A. licences being given by the Commission. Approximately 1,000 technical inquiries from outside the public service have been handled by senior officers.

The Senior Chemist and Food Technologist, Mr. R. C. Stanhope, represented the Department at the joint Convention of the Australian and New Zealand Institute of Food Science and Technology at Rotorua, New Zealand during April. He also addressed the Plastics Institute of Australia and the University of Melbourne on a variety of topics during the year, and participated in seminars on food labelling and the cleanliness regulations. Mr. Stanhope was appointed as a member of the committee of the Standards Association of Australia which is developing standards for plastics in contact with food. He also worked on a number of other committees.

Mr. N. C. Greene, Assistant Senior Chemist, lectured to the conference of sewerage engineers and operators on “Reliability of Laboratory Tests”.

Mr. M. James, Chemist, was granted conversion of his diploma to a degree at the Swinburne College partly on the basis of work on cadmium and mercury carried out in the Health Laboratory.

Meat and Meat Products.

A summary of results, accompanied by comparisons with the previous two years, is given in Table I.

TABLE I.—SUMMARY FOR MEAT PRODUCTS.

Type.	Number Examined.	Number not Complying.	Percentage not complying in—		
			1975-76.	1974-75.	1973-74.
Meat—					
Fresh .. .. .	249	5	2	1	1
Chopped .. .. .	303	35	11	11	11
Corned .. .. .	4	0	0	0	0
Manufactured .. .. .	177	3	2	3	7
Canned .. .. .	4	2	50	0	0
Sausages and Sausage Meat .. .. .	318	35	11	9	13
Tripe .. .. .	12	2	17	25	29
Meat Pies .. .. .	37	9	24	20	18
Total Meat Product Samples ..	1,104	91	8·2	7·8	8·7

The proportion of samples not conforming to the Regulations remains fairly constant, but three serious contraventions were noted. These were 30 grains per pound of sulphur dioxide in chopped meat (none permitted), 47 per cent. meat in sausages (75 per cent. minimum) from a country area and a sample of pork brawn containing a total of 64 grains per pound of nitrate and nitrite, well in excess of the statutory maximum of 14 grains per pound.

The loss of preservative from meat on cooking was investigated. The amount of sulphur dioxide in raw chopped meat was reduced considerably by heating. The rather high level of 30 grains per pound of sulphur dioxide was found in sausage casings, but this was not considered excessive due to the small proportion of casing in the final product.

Work was commenced on examination of poultry for antibiotic residues. No penicillin was found in 45 whole chickens or two samples of chicken livers at a detection limit of 0·001 microgram per gram of tissue. A number of the chickens did, however, exhibit some inhibitory activity which could result from either antibiotic or drug residues. A combination of microbiological and chemical techniques is being developed with the object of identifying the causative agents.

Dairy Products.

Only a few deviations from legal requirements were detected, and a summary is provided in Table II.

TABLE II.—SUMMARY FOR DAIRY PRODUCTS.

Product.	Total.	Number Not Complying.	Total 1974-75.	Number Not Complying in 1974-75.
Milk—				
Fresh .. .. .	150	3	158	0
Malted .. .. .	1	0	0	0
Powdered .. .. .	1	0	2	0
Butter .. .. .	24	0	29	0
Cream—				
Fresh .. .. .	2	0	9	2
Thickened .. .. .	10	0	17	0
Sour .. .. .	1	0	6	1
Cheese .. .. .	40	2	24	1
Ice Cream .. .. .	32	0	21	1
Yoghurt .. .. .	7	0	6	0
Total .. .. .	268	5	272	5

Contaminating material (q.v.) was identified in three samples of milk. One of the deficient cheese samples contained insufficient fat and excess moisture, while the other concerned labelling.

An extensive investigation of the composition of ice cream on the market was undertaken, following complaints that non-milk fat was being added. Results indicated that all brands were up to standard, and that no foreign fat was present. The average milk fat content was 10·8 per cent., the statutory minimum being 10·0 per cent. Ice cream is also required to contain at least 1 lb. 11 oz. of food solids per gallon, and the mean value obtained was 1 lb. 13 oz. per gallon.

Several complaints concerning the presence of a brown stain on the top seam of milk cartons were investigated. It was concluded that overheating during the sealing process, resulting in scorch marks, was the reason.

The level of iodine in milk was investigated, due to some concern being expressed regarding use of iodophors as sanitising agents in the dairy industry. Although iodine is an essential nutrient which occurs naturally in many foods, including milk, it is considered that the amount of additional iodine derived from iodophors in dairy products should be minimised by good manufacturing practice. A new method is being developed in the laboratory for more accurate estimation of iodine, involving the use of a specific ion electrode. Results so far obtained indicate that market milk in Victoria contains an average of about 400 micro-grams per litre (0·4 part per million) of iodine. Natural levels as high as 300 mcg./l. in milk and 5000 mcg./kg. in marine foods have been reported.

*Bread.*

Examination of 25 bread samples of various types revealed three instances of contamination with foreign substances (q.v.) and one milk bread loaf containing only 0·7 per cent. of non-fat milk solids, much less than the mandatory 4 per cent.

*Contamination of Food.*

A number of complaints regarding contaminating matter in food were investigated, (Table III.). While some foreign substances were found to be innocuous, infestation of foods by rodents and insects continues to occur, indicating most unsatisfactory handling.

An unusually large number of soft drink samples containing mould was reported, emphasising the need for adequate surveillance of returnable containers. Mould in particular is difficult to remove from the inside of bottles.

TABLE III.—LIST OF EXTRANEOUS SUBSTANCES FOUND IN FOOD.

Food.							Foreign material.	
Bread	..	..	..	..	..	..	Charred crumb	
Bread	..	..	..	..	..	..	Grease	
Bread	..	..	..	..	..	..	Mould	
Cake	..	..	..	..	..	..	Fly	
Confectionery	..	..	..	..	..	..	Piece of rock	
Infant food	..	..	..	..	..	..	Insect	
Milk	..	..	..	..	..	..	Insect fragments	
							Snail shell	
Milk	..	..	..	..	..	..	Particles of chocolate	
Milk	..	..	..	..	..	..	Pieces of paper	
Soft drink	..	..	..	..	..	..	Dried vegetable oil	
Soft drink (six samples)	..	..	..	..	..	..	Mould	
Soft drink	..	..	..	..	..	..	Mould and insect fragments	
Soft drink	..	..	..	..	..	..	Vegetable matter	
Wheat germ	..	..	..	..	..	..	Rodent faeces	
Wine (two samples)	..	..	..	..	..	..	Yeast cells	

*Pesticides.*

Samples examined for pesticide residues have almost doubled but the actual number of determinations has increased from 236 in the previous year to 567, since more than one analysis is often carried out on individual samples. A summary is given in Table IV.

Fresh fruits and vegetables usually contained some traces of residual pesticide. Organophosphorus materials were found in a smaller number of samples than organochlorine, which are more stable. Samples were below statutory levels except in one sample of brussel sprouts which had endrin above the permissible limit.

A survey of organochlorine pesticides in human kidney fat showed that, as in previous surveys, small amounts were present. The average level of HCB was lower than that found in 1973, indicating that its removal from use as a fungicide on seed wheat has been effective.

TABLE IV.—SUMMARY OF PESTICIDE RESULTS.

Nature of sample.	Number.	Analyses carried out.*	No. of samples in which pesticides were detected.
Beans (Lima) .. .. .	5	5 for OC .. .. .	4
		5 for OP .. .. .	5
Blood .. .. .	27	27 for OC .. .. .	17
		1 for Captan .. .. .	0
Brussel Sprouts .. .. .	18	18 for OC .. .. .	17
		5 for OP .. .. .	0
		11 for Carbaryl .. .. .	1
Cabbage .. .. .	7	7 for OC .. .. .	7
		7 for Carbaryl .. .. .	0
Cat food .. .. .	1	1 for OC .. .. .	0
Cauliflower .. .. .	11	11 for OC .. .. .	10
		6 for OP .. .. .	0
Celery .. .. .	10	10 for OC .. .. .	8
		10 for OP .. .. .	2
		10 for Carbaryl .. .. .	0
Cherries .. .. .	18	18 for OC .. .. .	15
		18 for OP .. .. .	0
		18 for Carbaryl .. .. .	0
Dates.. .. .	2	2 for OC .. .. .	2
Grapes .. .. .	20	20 for OC .. .. .	13
		20 for OP .. .. .	0
		20 for Carbaryl .. .. .	0
Ice cream .. .. .	1	1 for OC .. .. .	0
Kidney Fats :			
Cattle .. .. .	16	16 for OC .. .. .	16
Horse .. .. .	10	10 for OC .. .. .	9
Human .. .. .	48	48 for OC .. .. .	48
Pig .. .. .	10	10 for OC .. .. .	10
Sheep .. .. .	8	8 for OC .. .. .	8
Milk :			
Cow .. .. .	1	1 for OC .. .. .	0
Human .. .. .	1	1 for OC .. .. .	1
Nectarines .. .. .	5	5 for OC .. .. .	2
		5 for OP .. .. .	1
		5 for Carbaryl .. .. .	0
Peaches .. .. .	5	5 for OC .. .. .	5
		5 for OP .. .. .	2
		5 for Carbaryl .. .. .	1
Pears .. .. .	8	8 for OC .. .. .	8
		8 for OP .. .. .	0
		8 for Carbaryl .. .. .	0
Prunes .. .. .	2	2 for OC .. .. .	2
Pumpkin Seeds .. .. .	1	1 for OC .. .. .	0
		1 for OP .. .. .	0
Silver Beet .. .. .	10	10 for OC .. .. .	9
		10 for OP .. .. .	1
Spinach .. .. .	6	6 for OC .. .. .	4
Strawberries .. .. .	18	18 for OC .. .. .	13
		18 for OP .. .. .	2
		18 for Carbaryl .. .. .	0
Tomatoes .. .. .	21	21 for OC .. .. .	20
		20 for OP .. .. .	1
		20 for Carbaryl .. .. .	0
Water .. .. .	23	23 for OC .. .. .	22
	313		567

\*Legend: OC—Organochlorine Compounds OP—Organophosphorus Compounds

Metals.

Public health interest in the metallic content of foods and other materials has continued. Work on mercury, cadmium, copper and zinc is summarized in Table V.

An extensive study of mercury and cadmium contents of kidneys was carried out. Although mercury was found in all samples of horse and human kidneys examined, the highest figure being 0·44 part per million, it was not detected in either sheep or pigs. Only two bovine kidneys out of sixteen showed mercury present, both within statutory limits. No methyl mercury was detected in any of the kidney samples.

The kidney samples presented a similar picture with regard to cadmium content, except that levels were higher and some cadmium was present in sheep. The average level of cadmium in human kidneys was sixteen parts per million which is well within normal limits. The results also indicate that mercury-treated seed grain is not being used as animal feed.

The mercury content of a wide range of Victorian freshwater fish was determined. Most contained less than 0·5 part per million.

An instance of gross contamination with copper occurred during the summer. Following a complaint of illness in children after consuming ice blocks, high levels of copper were found in the food. Brands on the market were tested and eleven samples out of 117 found to contain copper above the statutory limit, the highest level being 85 parts per million. All of the offending ice blocks originated in New South Wales and it was eventually established that copper had been absorbed from the moulds used in manufacture, due to wearing away of the tinplate.

Plastic containers intended for non-food applications, such as a bucket and a rubbish bin, were tested following suggestions that they are sometimes made from recovered plastic and may be unsuitable to hold food. Although not intended for this use they are sometimes misused. No heavy metals were extracted with dilute acetic acid.

TABLE V.—MERCURY, CADMIUM, COPPER AND ZINC.

Sample.							Number Analysed.	Range (p.p.m.)
Mercury—								
Bananas (including skins)	..	..	..	..	..	..	3	N.D.*
Cape Cod	..	..	..	..	..	..	1	N.D.
Cod (smoked)	..	..	..	..	..	..	1	0.03
Flounder	..	..	..	..	..	..	9	0.03-0.28
Freshwater fish (various species)	..	..	..	..	..	..	321	N.D.-2.2
Hair (human)	..	..	..	..	..	..	5	0.5-2.0
Hake	..	..	..	..	..	..	2	0.11-0.23
Kidneys (animal)	..	..	..	..	..	..	50	N.D.-0.44
Kidneys (human)	..	..	..	..	..	..	50	0.03-4.3
Mine Tailings and creek waters	..	..	..	..	..	..	10	N.D.-0.1
Murray Perch	..	..	..	..	..	..	6	0.16-0.32
Prawns (canned)	..	..	..	..	..	..	1	0.02
Shark	..	..	..	..	..	..	55	0.02-2.2
Turbot fillets (from Greenland)	..	..	..	..	..	..	1	0.11
Whale meat	..	..	..	..	..	..	1	0.07
Cadmium—								
Kidneys (animal)	..	..	..	..	..	..	50	N.D.-62
Kidneys (human)	..	..	..	..	..	..	50	3-39
Mussels	..	..	..	..	..	..	1**	1.6
Scallops	..	..	..	..	..	..	126	N.D.-46
Copper—								
Celery	..	..	..	..	..	..	18	N.D.-4.5
Coffee	..	..	..	..	..	..	1	N.D.
Ice blocks	..	..	..	..	..	..	117	N.D.-85
Prawns (canned)	..	..	..	..	..	..	1	N.D.
Zinc—								
Coffee	..	..	..	..	..	..	1	5
Fruit juice	..	..	..	..	..	..	1	10
Scallops	..	..	..	..	..	..	24	14-35

\* Not detected.      \*\* Composite sample of 60 individual mussels.

Waters, Effluents and Trade Wastes.

A total of 923 samples in this category was examined, involving over 5,000 individual estimations. Sources covered a wide range, including sewage effluents, renal dialysis waters from hospitals, industrial effluents and flouridated supplies for statutory testing.

As usual, a number of complaints were referred to the Laboratory. Excess iron was detected in water from a drink vending machine in use on a railway platform, where the supply contained 2.3 p.p.m. of iron, indicating the need for regular flushing of the machine. The internal plumbing in two government buildings was also found to result in iron and copper contamination of the tap water.

A product on sale which was described as distilled water contained about 10 per cent. of sulphuric acid.

Miscellaneous.

Contraventions of the regulations were detected in a variety of foods.

Nine samples of liquid egg out of a total of sixteen were shown not to be pasteurised. This resulted in a number of seizures and a successful prosecution by the Department. The Food and Drug Standards Regulations require all liquid egg on sale to be pasteurised.

Two oil samples—peanut and olive—did not comply with standards. The peanut oil was supplied in quantity to a defence establishment.

Other cases of non-compliance were a jam deficient in solids, a jelly, which contained preservative, excess alcohol in confectionery, and excess preservative in grapefruit juice.

Apricot kernels on the market contained over 2,000 parts per million of cyanide, a naturally-occurring component. The public was warned not to consume the kernels and the manufacturer was instructed not to put them on sale unless treated to remove most of the cyanide.

Tests in oil and wine in PVC containers indicated that no significant contamination with vinyl chloride was occurring.

Two instances of the presence of struvite crystals in canned fish were noted during the year. This is a harmless natural substance which occasionally forms in this type of product, but causes complaints due to its resemblance to glass splinters.

Other items examined included adhesive, toilet cleaner and flower petals coated with confectionery.

## FOOD STANDARDS COMMITTEE.

At its meetings during the past year the major business for discussion by the Food Standards Committee was a number of proposed draft standards recommended by the National Health and Medical Research Council, on the advice of the Commonwealth Food Standards Committee, designed for uniform adoption throughout the various States.

Apart from a considerable number of amendments to existing standards a new standard for Pesticide Residues is ready for promulgation. This standard prescribes limits for a much wider range of substances than allowed at present, including veterinary drugs.

The Committee also approved National Health and Medical Research Council amendments for metal content in foods and maxima for Vinyl Chloride in foods and food packages.

Due to concern regarding the composition and labelling of Canned Baby Foods it was resolved that a legal standard should be set for the sale of these products in Victoria.

A Regulation relating to Canned Food for Infants is currently being printed.

## PROPRIETARY MEDICINES ADVISORY COMMITTEE.

A total of 368 applications to have preparations registered as Proprietary Medicines in accordance with Division 3 of the *Health Act* 1958, were received by the Department in the past twelve months. This figure indicates a slight increase on last year's figure (1974-75, 315 applications), but is less than previous years—(1973-74, 406 applications ; 1972-73, 571 applications).

Since the inception of the scheme a total of 20,579 applications have been received, and of these 17,123 have been recommended for registration to the Chief Health Officer by the Advisory Committee.

During the past twelve months the Committee met on 21 occasions. Fifteen of these meetings were to consider new applications, three were to review registrations of more than ten years standing and three dealt with a combined agenda consisting of both new and review applications.

One supplementary register was published during the year containing 300 registered preparations, 1,437 deletions and 159 amendments to existing registrations.

Because the number of applications received was fewer than in previous years, some time was available to contact various companies and ascertain the status of many older registrations. As a result, over 1,400 registrations no longer required were cancelled, resulting in the updating of office records.

During the year, only two companies exercised the right of appeal under Section 263 (4) of the *Health Act* 1958, and appeared before the Committee in support of their applications.

## POISONS DIVISION.

### *Staffing.*

The Division functioned for most of the year with a staff shortage caused by the continued absence of the Senior Poisons Officer on sick leave. Unfortunately, towards the end of the year Mr. R. H. Borowski passed away and appreciation is recorded of the valuable guidance and leadership that he gave to the staff of the Poisons Division in his position as Senior Poisons Officer since the inauguration of the Division in 1962.

Towards the end of the year Mr. J. W. Ross was appointed to the redesignated position of Senior Poisons Control Officer. Mr. Ross was a Scientific Officer previously within the Department.

The position of Assistant Secretary of the Division was taken over by Mr. R. Cooke from Mr. Harrison who remains with the Department as Secretary of the Food Standards Committee. Mr. Cooke was previously with the Special Accommodation Houses Section.

### *Committee and Sub-Committee Meetings.*

The Poisons Advisory Committee met on four occasions during the year and six meetings were held of the Scheduling Sub-Committee.

Numerous meetings also were arranged with various trade, professional and business organisations and a number of meetings and seminars were attended officially to maintain communication between these bodies and the Department.

### *Legislation.*

The following legislation was introduced during the year :

*Poisons (Amendment) Regulations 1976.*

These Regulations provide for certain hair dyes for animals to bear a warning label and also prohibit paper, calico and plastic containers and collapsible tubes as immediate containers of poisons in certain cases.

*Special Poisons (Ovulatory Stimulants) Regulations.*

These Regulations were consolidated during the year and in addition Mooroopna and District Base Hospital, Ballarat and District Base Hospital, the Gippsland Base Hospital and the Swan Hill District Hospital were added to the list of hospitals whose chief pharmacists are authorised to hold ovulatory stimulants on behalf of medical practitioners holding warrants from the Chief Health Officer to possess and to use these drugs. In addition, Cyclofenil was included as an ovulatory stimulant in the Regulations.

*Co-Ordination of Activities Between States.*

(a) Poisons Schedule Standing Committee.

Mr. F. R. Ahern, Poisons Control Inspector, attended four meetings of this Committee with representatives of the other States under the Chairmanship of Dr. E. Fitzsimmons, Medical Officer of the Australian Department of Health.

The Standing Committee continued its role of offering uniform advice to the States in respect of scheduling, labelling and packaging.

(b) Control of Therapeutic Goods.

Mr. A. T. Gardener, Deputy Secretary of the Department of Health and Mr. F. R. Ahern, Poisons Control Inspector, attended three meetings of the National Therapeutic Goods Committee which was established in recent years under the Therapeutic Goods Act to exercise control and to co-ordinate legislation throughout the Commonwealth and State Departments of Health, over all therapeutic goods.

Regular inspections of premises of manufacturers and wholesalers have been continued throughout the years by officers of the Division in conjunction with officers of the Commonwealth Health Department.

Mr. F. G. Jameson, Poisons Control Inspector, has acted as Commonwealth/State "Co-ordinator" of joint inspections pursuant to the Australian Code of Good Manufacturing Practice since January, 1976. Recommendations based on these inspections were made to the companies concerned and follow-up procedures have been adopted to ensure compliance with the Code by the companies concerned.

(c) Monitoring of Drug Transactions—Drugs of Dependence.

The Division continued to monitor the movements of drugs of dependence and to provide information to the Commonwealth Health Department on stock balances and weekly adjustments by all licenced wholesalers and manufacturers.

All officers continued to survey movement returns of drugs of dependence, resulting in a number of permits for patients requiring quantities of drugs of dependence and some instances of illicit drug use. Consumption and usage of particular drugs such as methadone was studied and appropriate action was taken to maintain the usage of drugs of dependence at a minimum.

*Health Education Activities.*

The Senior Poisons Control Officer and all Poisons Control Inspectors continued to participate in the Commonwealth drug education programme as members of the speakers panel of the Health Education Centre. In addition these officers gave a number of lectures, talks and participated in symposia on poisons legislation and other topics associated with drugs, poisons and therapeutic goods.

On request, officers were made available to lecture to students at Melbourne University, Monash University, The Victoria College of Pharmacy, The William Angliss Food Trades School, Oakleigh Technical School, primary and technical schools and other community and professional groups.

*Professional and Technical Advice and Assistance.*

Officers of the Poisons Division continued to provide advice to industry, the professions and the public on all aspects of the manufacture, packaging, labelling, containers and regulations concerning the role, distribution and use of poisons and deleterious substances.

All Poisons Control Inspectors continued to assist at the Poisons Information Centre at the Royal Children's Hospital when the officer in charge took leave and provided lunch-time relief throughout the year. The Division also provided inspectorial support and advice to the Victorian Proprietary Medicines Advisory Committee, the Stock Medicines Board, and the Special Accommodation Houses Section of the General Health Branch.

#### *Drug Recalls.*

Twenty-five recalls of sub-standard therapeutic goods were instituted during the year. This represents a decline on previous figures but is probably of insufficient significance to indicate any change of circumstances in the drug manufacturing industry.

Recalls were necessary for the following reasons : particulate matter, contaminated contents, failure to meet required standards of potency or faulty or incorrect labelling or packaging.

Appropriate follow-up investigations were made and recommendations formulated to deal with and to prevent a recurrence of the incidents which had necessitated the recalls.

#### *Permits for Drugs of Addiction.*

The number of permits issued to medical practitioners by the Chief Health Officer to prescribe Schedule 8 Amphetamine drugs and other drugs of addiction for periods in excess of 8 weeks again showed an increase on the previous year. A total of 1,058 permits for 989 patients were issued compared with 783 permits in 1974-75 and 738 in 1973-74. Of this number, permits to prescribe drugs of addiction for long term treatment of medical conditions other than drug addiction again increased from 625 permits for 563 patients in 1974-75 to 908 permits for 847 patients. In 1973-74 596 permits were issued for 548 patients. Permits to prescribe Schedule 8 Amphetamine drugs remained fairly constant—148 for 108 patients last year, compared with 150 permits for 142 patients this year.

In the period under review 374 people were notified to the Chief Health Officer as drug addicts compared to 358 people the previous year. Nine hundred and forty seven permits for 591 patients were granted by the Chief Health Officer for treatment with drugs of addiction of addicted patients compared with 612 permits for the previous year.

#### *Drug Security.*

During the period under review the number of reports of breakings into pharmacies and armed hold-ups decreased. Also the number of persons attempting to obtain drugs of addiction by false pretences or by forging and altering prescriptions declined.

This declining illicit activity would indicate that previous initiatives taken to combat drug dependency which had in previous years exacerbated some problems were now beginning to take effect. These measures have included the encouragement of pharmacists to maintain only minimal stocks of drugs of addiction, the education of doctors on how to detect and respond to patients attempting to obtain drugs fraudulently, improved storage requirements in factories, pharmacies and hospitals, and a prompt notification system where doctors prescription pads have been stolen.

The improved treatment facilities and the encouragement of drug-dependent persons to seek help from family doctors also is certain to be having some impact.

#### *Licencing.*

Officers of the Division continued to inspect the suitability of premises nominated in all manufacturing and wholesale licence applications and all permit applications before such applications are recommended to the Poisons Advisory Committee for their consideration. The ability and qualifications of the applicant are also considered prior to such recommendations.

The number of licences and permits currently in force are as follows and the number of new licences and permits issued during the last year are listed in brackets :

Licence to manufacture drugs of addiction	..	..	..	12	(0)
Licence to sell drugs of addiction by wholesale	..	..	..	9	(3)
Licence to manufacture poisons (other than drugs of addiction)	..			176	(31)
Licence to sell poisons by wholesale (other than drugs of addiction)				273	(98)
Educational, Advisory and Research Permits	..	..	..	317	(59)
General Dealer's Licences	..	..	..	196	(24)
Industrial Permits	..	..	..	1,782	(558)
Retail Licences	..	..	..	4,126	(907)
Hospital Authorities	..	..	..	320	(32)

### *Poisons Information Centre.*

Yet again the busiest months were those in Autumn and Spring. The frequency rose from 17·00 calls per day in January to 22·91 in March, dropped to 19·00 in June, rose again to 22·00 in September and was 20·20 calls per day in December.

Internal and parenteral medications, with 1,516 inquiries or 30·41 per cent. of the total for the year, represented the largest single category of topics. Bleaches, furniture polishes, deodorizers, disinfectants and other cleaning and related products together formed the second-largest group, with 849 inquiries, or 17·03 per cent. of the total.

External and topical medications and cosmetics accounted for 659 calls ; pesticides 471 ; plants 263 ; kerosine, the turpentines and other solvents and petroleum distillates 233 ; bites and stings and their causes 216 ; and the remaining 778 inquiries (15·71 per cent. of the total) concerned a broad range of miscellaneous topics including paints, fertilizers, arts and crafts products, inks, pet-care products, etc.

More than 70 per cent. of the increase of 268 in the number of calls compared to the previous year was attributed to professional enquiries. The number of calls from doctors was 955 (an increase of 117 over the total of 838 in 1974) and the number from other health professionals was 661 (up 77 from 584) ; altogether the professional calls totalled 194 more than in 1974. Expressed in terms of the average number of calls per day, the professional calls in 1975 amounted to 6·49 calls per day, an increase of 17·4 per cent. compared to 1974. This result compares favourably with the increase of 74 in the number of calls from the general public and reversed the downward trend that had prevailed almost every year since 1965 when the professional calls amounted to a record 51·3 per cent. of the total.

### *Community Welfare Services.*

Although there has been a continuing expansion in community welfare services, the rate of expansion has been slowed by continuing inflation which has caused some municipal Councils to severely prune programs thus delaying the commencement of many approved projects. Development of the home help service to the mentally retarded which commenced in 1974, did not occur because of the resignation of the Senior Assistant Advisor. His replacement is expected to commence duty shortly.

During the year the assistant advisers visited 206 municipalities for discussions with the municipal clerk, home help organisers, welfare officers and elderly citizens' clubs.

### *Home Help Service.*

A subsidy is provided to those municipalities operating or financially assisting in the operation of a home help service. This service provides hourly assistance to the aged and infirm when they are no longer able to perform certain household tasks and full time emergency help to young families when the mother is prevented through illness or confinement from adequately caring for the family and attending to everyday household needs. It also provides special assistance to families looking after mentally retarded persons to permit those caring for a retarded person at home some relief so that they may participate in community life.

The main developments in the home help scheme have been the continuing expansion of the extension to provide assistance to parents with mentally retarded persons and a pilot scheme organised in six municipalities to provide special assistance to families caring for physically handicapped children under 16 years of age. The full cost of this extension is met by the State Government except for a nominal contribution amounting to a maximum of 50 cents per hour made by the parents. The mentally retarded extension now operates in 165 municipalities and is very much appreciated. From the commencement of this scheme a total of 1,328 home helps have attended orientation courses of two weeks duration aimed at familiarising them with the special requirements of the mentally and physically handicapped.

The pilot study being undertaken in the six municipalities is collecting information concerning the needs of all handicapped persons although at present only families caring for a handicapped child under 16 years receive assistance.

During the last twelve months period the following subsidies were granted :—

New home help services .. .. .	5 municipalities
For cost of using private transport .. ..	13 first approvals
	17 additional approvals

The growth of the service can be seen from the figures below :—

	1974-75	1975-76
Number of councils granted subsidies .. .. .	192	195
Total number of services operating .. .. .	181	183
Municipalities in receipt of subsidies to use private transport	138	153

## Number of householders assisted (excluding special assistance mentally retarded)—

					1974-75	1975-76
(a) Aged and infirm	..	..	..	..	12,863	14,454
(b) Young families	..	..	..	..	9,992	9,538
(c) Others	..	..	..	..	1,746	1,925
					<hr/> 24,601	<hr/> 25,967
Elderly assisted for more than twelve months	..	..			3,624	5,042
Total number of hours assistance given to the aged	..	..			971,954	1,114,400
Chronically ill assisted during the last quarter	..	..			128	160
Eligible cases for whom no assistance available	..	..			91	123

*Home Helps employed (last quarter)—*

Full time	..	..	..	..	154	157
Part time	..	..	..	..	718	770
Hourly	..	..	..	..	1,527	1,683
					<hr/> 2,399	<hr/> 2,610

Number of home helps available to live in .. .. 34 25

Cost to Government (excluding mentally retarded) .. .. \$2,035,237 \$3,327,109

*Extensions of Home Help to families with Mentally Retarded Persons*

					9 mths. to 31.3.75	12 mths. to 31.12.75
Municipalities participating	..	..	..	..	122	151
Home Help who have undertaken orientation course	..				267	1,328
Families assisted	..	..	..	..	1,468	3,111
Total hours assistance given	..	..	..	..	33,225	94,358

		1974-75	1975-76
		\$	\$
Cost to State Government for year ending 30th June	..	171,514	429,303

*Total Cost to Government for Home Help—*

Contribution from Commonwealth	..	..	..	919,764	1,516,144
Nett cost to State	..	..	..	1,286,987	2,240,268
				<hr/> 2,206,751	<hr/> 3,756,412

*Elderly Citizens' Clubs.*

Elderly Citizens' Clubs have proved invaluable in assisting the aged to retain and regain their health and so continue to live happy and independent lives in their own homes as long as possible.

Government subsidies are available to municipal councils towards the cost of establishing and maintaining elderly citizens' clubs. The capital subsidy is provided from State funds and payments made by the Commonwealth Government to the States under the *States Grants (Home Care) Act 1967*. On the other hand the maintenance subsidy payable is comprised of State Government funds only. At present the maximum subsidy is \$3,000 per annum, payable on the basis of two thirds of the nett cost to the Council of conducting a club.

Despite inflation 21 elderly citizens' clubs for which capital subsidies were granted in previous years, were completed and opened during the year. However a number of projects did not proceed as insufficient local funds were available to breach the gap between the subsidy available and the project cost. Increasing building costs resulted in the approval of increased capital subsidies involving 34 new clubs.

Unfortunately, even with sufficient local funds in hand, a number of projects did not proceed because of a limitation in Commonwealth funds. There have been no approvals given by the Commonwealth for the erection of new clubs since September 1975.

During the year the assistant advisers visited many of the existing elderly citizens' clubs and held discussions with welfare officers in an endeavour to improve the services and facilities for the elderly. In a number of clubs executive officers have remained in office for a considerable time thus causing some administrative problems and clubs are now encouraged to limit to two years the terms of Presidents and Secretaries where suitable replacements are available.

The position concerning the activities and services compared with last year's figures is set out below :—

						1974-75	1975-76
Membership .. .. .	..	..	..	..	..	35,185	38,687
Municipalities with Hot Meal Services .. .. .	..	..	..	..	..	105	106
Average number of meals weekly							
(a) served at clubrooms .. .. .	..	..	..	..	..	7,663	7,987
(b) through meals-on-wheels .. .. .	..	..	..	..	..	22,643	25,901
Clubs providing handicraft .. .. .	..	..	..	..	..	46	52
Chiropody at clubrooms—clubs .. .. .	..	..	..	..	..	104	116
Number received chiropody—monthly .. .. .	..	..	..	..	..	2,849	3,193
<i>Summary of subsidised—</i>							
Municipalities .. .. .	..	..	..	..	..	161	166
Clubs .. .. .	..	..	..	..	..	259	279
Capital and maintenance .. .. .	..	..	..	..	..	207	220
Capital only .. .. .	..	..	..	..	..	22	17
Maintenance only .. .. .	..	..	..	..	..	30	41
						\$	\$
<i>Government Expenditure—Capital and Maintenance</i> .. .. .	..	..	..	..	..	803,291	2,171,690
<i>Capital</i>							
(a) Commonwealth .. .. .	..	..	..	..	..	414,396	1,546,875
(b) State .. .. .	..	..	..	..	..	110,873	207,026
TOTAL CAPITAL .. .. .	..	..	..	..	..	525,269	1,753,901
<i>Maintenance State only</i> .. .. .	..	..	..	..	..	278,022	417,789
<i>Balance of Capital commitments—</i>							
(a) Commonwealth .. .. .	..	..	..	..	..	1,352,550	1,898,285
(b) State .. .. .	..	..	..	..	..	284,134	194,097
TOTAL .. .. .	..	..	..	..	..	1,636,684	2,092,382
<i>Total Cost to Government since 1955—Capital and Maintenance</i>							
(a) Commonwealth .. .. .	..	..	..	..	..	..	2,380,657
(b) State .. .. .	..	..	..	..	..	..	4,609,105
TOTAL .. .. .	..	..	..	..	..	..	6,989,762

Twenty new clubs were granted subsidies five of which were capital and fifteen maintenance.

*Total now subsidised*

Municipalities .. .. .	165	Clubs .. .. .	279
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*Welfare Officers for the Aged.*

During the year subsidies were approved in respect of eight additional welfare officers, employed by seven municipalities. The total number of welfare officers currently appointed and in receipt of subsidies is 48 operating in 38 municipalities.

Registers of aged people are being kept in the 38 municipalities employing welfare officers and statistics concerning them in relationship to the population for the last two years is as follows :—

						1974-75	1975-76
Total population .. .. .	..	..	..	..	..	1,280,292	1,351,488
Aged population (approximately 12 per cent.) .. .. .	..	..	..	..	..	152,643	175,495
Elderly persons registered (approximately 7½ per cent. of the aged) .. .. .	..	..	..	..	..	13,114	17,404
Elderly living alone .. .. .	..	..	..	..	..	5,730	7,181

The register permits the welfare officers to make arrangements more easily for the appropriate services to be provided and overcomes the risk of duplication. It also enables a check to be kept on the elderly at greatest risk, especially those living alone.

The cost to the Commonwealth Government for subsidising the salaries of the welfare officers was :—

1974-75	1975-76
\$	\$
156,584	227,611

## ENVIRONMENTAL HEALTH.

During recent years there has been a growing interest by the community in the environment and the possible effect of pollution on ecology and public health.

The increase in consumer demand coupled with advanced technology has resulted in the production of new products together with wastes requiring disposal.

Some products are classified as "safe", however, after prolonged usage or exposure their safety is questionable. Substances sometimes capable of causing cancer are often difficult to assess because of the long exposure required, the individual susceptibility and the amount of by-product present in the finished product and the difficulty of extrapolating animal experimentation results to human beings.

The areas of special interest in which Departmental Officers have been involved over the past 12 months are as follows :—

### *Mercury in School Shark.*

Changes have been agreed to in relationship to the maximum size of school shark. The maximum length has been increased from 41 inches to 44 inches on condition that the minimum length be decreased from 36 to 33 inches. These changes would ensure that the average level of mercury consumed would not exceed the prescribed level of 0.5 mg. per kilogram.

### *Cadmium.*

Following the discovery of high cadmium levels in mussels in Corio Bay, a survey was carried out on human and animal kidneys. The levels were found to be within normal limits.

The Melbourne and Metropolitan Board of Works also conducted a similar survey on the kidneys of cattle raised at the Board's farm at Werribee. The levels obtained were also within normal limits.

### *Arsenic.*

High levels of arsenic were found in crayfish without apparent ill effect on human health.

Possibly the arsenic is present in an organic form which is not as toxic as the inorganic form.

### *Cyanide.*

Health food shops are promoting the consumption of apricot kernels, which have been found to contain high levels of cyanide. Consumers have been advised to limit their daily intake.

### *Iodine.*

Many parts of the State have iodine deficiency in the soil which leads to iodine deficiency goitre in children in localised areas. The Department distributed potassium iodide tablets to children to offset the deficiency. Over the past few years iodophors have become popular to dairy farmers for sterilizing milking equipment. This has led to an increase in iodine levels in milk, thus eliminating the necessity for tablet distribution.

Monitoring is continuing to ensure that iodine levels in milk do not become excessive.

### *Vinyl Chloride.*

Discovery of a rare liver tumor confined to workers in the polymerisation plants in the plastic industry led to the discovery of polyvinyl chloride monomer as a carcinogen.

There is no evidence that food stored in vinyl chloride has any detrimental effect on human health.

A survey carried out by the Commonwealth Government disclosed the presence of high levels of vinyl chloride in oil stored in plastic containers.

The tests carried out by the State Laboratories showed minute quantities in 20 per cent. of the samples. The tests were repeated after 6 months but no vinyl chloride was detected. In addition to the above, tests were carried out on alcohol stored in plastic containers. After a period of 18 months the tests were repeated on the same samples but in neither case was any vinyl chloride detected.

### *Orthotolidine.*

This substance is used for testing residual chlorine in swimming pool water. It is a known carcinogen, but in the form and concentration in which it is dispensed for this purpose it is not considered to be a health hazard. Precautionary warnings have been incorporated in the instructions on usage.

### *Bathing Beaches.*

A review of the literature on the bacterial qualities of bathing beaches has been carried out.

The most extensive survey carried out was in England over a period of 10 years. The conclusion was that swimming causes an increase in the incidence of ear, nose and throat infections irrespective of the bacterial quality of the water. Provided that raw sewage was not discharged adjacent to the bathing area, there was no logical justification for introducing a bacterial standard for swimming beaches.

### *Disposal of Wastes.*

Disposal of liquid and toxic wastes present a problem of major importance. The facilities at Tullarmarine are inadequate for today's needs, while disposal at the Sunshine Municipal Garbage Depot may provide short term relief, the end result could lead to permanent destruction of the Western Suburbs aquifers and long term pollution of Port Phillip Bay.

### *Sewage.*

The Melbourne and Metropolitan Board of Works in conjunction with Fairfield Hospital is in the process of testing sewage for the various types of viruses. Results are not yet to hand.

Purified effluent is being used for irrigation of public golf courses. Experiments are being conducted for more extensive reuse including aquifer recharge.

The Melbourne and Metropolitan Board of Works has initiated a programme of monitoring heavy metal uptake by both soil and plants at the Werribee Farm.

### *Fly Suppression.*

At the direction of the Premier, a Committee was set up to investigate fly suppression. This Committee is under the chairmanship of the Director of Conservation and the Health Department is represented. The main emphasis to date has been on public education with a limited amount of research.

### *Public Water Supplies.*

A Committee has been set up to investigate the possibility of multiple use of the Thomson Catchments. To date no firm decisions have been reached.

An interdepartmental committee has been set up under the auspices of the Department of State Development to investigate the advisability and feasibility of developing the Lake Eppaloch area for tourists. The report is in the process of completion.

At the request of the World Health Organisation the Melbourne and Metropolitan Board of Works has commenced a monitoring programme of possible toxic substances in the Melbourne water supply.

### *State Emergency Services.*

Mr. Crowley, Senior District Health Inspector, has been appointed in a full time capacity to State Emergency Services planning.

A course was conducted at Mt. Macedon on medical emergency planning, which was attended by the Deputy Chief Health Officer. Regional emergency services plans are being drawn up for the various regions of the State. The greatest concern at the present moment for emergency services planning is in the field of fire and sabotage in high rise buildings.

## INDUSTRIAL HYGIENE DIVISION.

### *Cases of Occupational Disease.*

One hundred and ninety eight persons were medically reviewed and/or assessed for occupational disease. The following classification was made :—

A. Lead poisoning or excessive lead absorption	..	..	54
B. Pneumoconiosis..	..	..	11
C. Occupational asthma	..	..	4
D. Cadmium poisoning	..	..	1
E. Excessive dieldrin absorption	..	..	1
F. No occupational disease	..	..	127

A further breakdown of each group follows.

As a result of examinations for lead poisoning or excessive lead absorption carried out under the Lead Workers (Medical Examination) Regulations 1973, 109 lead workers were referred to the Division on 208 occasions for detailed investigation of their lead status.

A diagnosis of lead poisoning was made for 30 persons on 36 occasions and a diagnosis of excessive lead absorption for 24 persons on 30 occasions. The former diagnosis resulted in the worker being put off work and on treatment, the latter diagnosis resulted in transfer of the worker to work not involving exposure to lead.

There were four cases of asbestosis including one death and one with a pulmonary malignancy. There were six cases of silicosis and one which could be either silicosis or asbestosis.

Two of the cases of occupational asthma were due to isocyanates ; one was a pot-room asthma from aluminium smelting and one was due to non-specific causes.

The case of cadmium poisoning showed the typical disturbed renal function of chronic cadmium poisoning but with no symptoms attributable to cadmium exposure.

Excessive dieldrin exposure was noted in a pest control operator working mainly on termite control. He showed a very high level of dieldrin in blood but was entirely without symptoms.

No occupational disease was found in 66 of the 109 lead workers referred to above. The investigation revealed a level of lead absorption acceptable for occupational exposure.

Also included were 31 cases referred by medical practitioners for investigation of lead status and none of these cases showed lead absorption in excess of normal range.

### *Lead.*

The total number of tests for lead exposure performed by the Division were :—

Urinary coproporphyrin	..	..	..	..	..	984
Urinary specific gravity	..	..	..	..	..	984
Urinary lead	..	..	..	..	..	74
Haemoglobin	..	..	..	..	..	12
Haematocrit	..	..	..	..	..	331
Blood Lead	..	..	..	..	..	562
Faecal Lead	..	..	..	..	..	6
Stipple cell counts	..	..	..	..	..	5
Lead in hair	..	..	..	..	..	22

Eight lead in air tests were performed in factories.

Two cases of non occupational lead poisoning, a seven year old boy and a Lebanese woman were investigated. The boy was found to have two possible sources of lead, a piece of lead from a broken crystal cabinet door which he chewed and peeling lead paint in the small yard of his home. The woman's exposure was due to the drinking of a "lemon" drink prepared by boiling lemon leaves in a Lebanese coffee boiler made of brass but "tinned" on the inside with solder.

Four items of china and cooking ware were tested for lead release involving ten analytical determinations. Twenty four tests for lead were carried out on paint from toys, pencils and old houses.

### *Cadmium.*

An investigation into the alleged cadmium hazard from the use of compressed air machines to tighten cadmium plated nuts inside box girders of the West Gate Bridge was carried out. This involved four cadmium in air tests and twelve determinations of cadmium in blood.

Three other workers were tested for excessive cadmium absorption. One case of cadmium poisoning was detected.

As part of a collaborative study on cadmium in sea food 24 samples of Lakes Entrance scallops were tested for cadmium.

### *Solvents.*

A fatal poisoning from inhalation of solvent vapour in a confined space was investigated. This was caused by the use of a petroleum solvent to clean the inside walls of a mixing tank which had contained resin.

Gas chromatography was used for the analysis of solvent exposure in two situations, the first to measure toluene, methyl iso butyl ketone and methyl ethyl ketone during painting on board ship and the second to measure 1 : 1 : 1 trichloroethane during "spotting" of garments.

Duplicator fluid and paints supplied by the Painters' Union were also analysed by distillation and by gas chromatography.

Field monitoring equipment was used on a large number of occasions for the measurement of solvent vapour.

### *General Chemicals.*

Several inspections of waterfront situations were carried out by the scientific staff under the agreement that recommendations on health aspects on the waterfront be dealt with by State Health Officers.

Field equipment was used for the measurement of many atmospheric contaminants such as toluene diisocyanate, carbon monoxide, solvents and methyl bromide.

Chemical methods were used for the investigation of ozone production by domestic and industrial ozonizers and scientific equipment. Ozone production during welding of aluminium boats was also measured chemically.

The use of pentachlorophenol in the treatment of timber at two plants was investigated and advice given as to safety precautions to be taken.

A large number of enquiries were received requesting advice on the toxicity and safe handling of various chemicals.

Recommendations were made to some 30 factories to reduce the atmospheric contamination of the working environment, generally by means of local exhaust ventilation but also by improved techniques in the handling of hazardous chemicals.

### *Asbestos.*

The Division has improved its facilities for asbestos sampling and analysis to conform with the Draft Code of the Asbestos Industry Occupational Hygiene Committee.

Twenty-two samples from five different factories have been analysed. Of these, six showed fibre counts in excess of the National Health and Medical Research Council recommended levels and in all cases appropriate action is being taken either by the provision or modification of exhaust ventilation or by modification of the process.

### *Carbon Monoxide.*

Twenty seven carboxyhaemoglobin analyses were undertaken during the year of which twenty three were used to assess occupational exposure to carbon monoxide in a variety of situations including aircraft, multi-storey carparks, laboratories and city traffic. No exposure sufficient to warrant further action was found.

Atmospheric carbon monoxide testing was also undertaken to assist the Police Department with the investigation of a carbon monoxide fatality, in the assessment of the quality of air supplied to respirators, and in the assessment of possible hazard from aircraft exhaust fumes to office workers at the Melbourne Airport.

### *Arsenic.*

A survey to assess the occupational arsenic exposure of employees in copper-chromium-arsenic wood treatment plants was completed. Of twenty-nine plants in Victoria, eighteen were inspected and urinary arsenic analyses were carried out for the most heavily exposed persons. It was concluded that their arsenic exposure from occupational causes was slight, if any, and was well below the level likely to present a hazard to health.

Two other factories where arsenic is used were inspected : one of these was a plant manufacturing copper-chromium-arsenic wood preservative. While the arsenic exposure at this plant is somewhat greater than in the timber treating plants it is still below the level likely to present a health hazard.

Altogether sixty-seven analyses for arsenic were carried out for forty-eight people. No cases of poisoning were found.

### *Methyl Bromide.*

Blood bromide determinations were carried out for fifteen people none of whom showed excessive exposure to methyl bromide.

### *Organophosphorus pesticides.*

Two hundred and sixteen estimations of red cell cholinesterase and three estimations of plasma pseudo cholinesterase were carried out. Of these nineteen people were found to have had excessive exposure to organophosphorus compounds with five exhibiting symptoms of poisoning. In four cases the pesticide involved was mevinphos and in the fifth it was dometon-S-methyl. These poisonings resulted from skin absorption of the pesticides due to carelessness.

A survey of cholinesterase levels of farmers in the Nar Nar Goon area revealed several who had absorbed excessive amounts of organophosphorus pesticides although none had symptoms of poisoning. Regular six monthly cholinesterase tests are to be done in this area as has been done for some years in the Silvan district.

Mercury.

A survey of factories using mercury in Victoria continued involving inspections of twelve firms and urinary mercury analyses for employees. Several laboratories using small amounts of mercury only were inspected at their request.

One hundred and fourteen people were tested for mercury absorption ; twelve of these showed excessive absorption of mercury but none exhibited symptoms of poisoning.

Thirty-two samples of fish were analysed for mercury.

Twenty-six analyses of mercury in rat tissue were carried out to assist a research project in the Faculty of Medicine at Melbourne University.

One hundred and thirty analyses of mercury in hair were carried out as part of a study of the mercury in hair levels of the general population.

Pest Control Operators Regulations 1972.

These Regulations have now been in operation for four years and as at the end of 1975 the currently held registrations and licences were as follows :—

Registration of business of pest control	..	..	..	93
Class 2 Licence as pest control operator	..	..	..	194
Class 3 Licence as pest control operator	..	..	..	64

Radiation.

The numbers of licences issued to various sections of the community for the possession and use of irradiating apparatus and for possession, use, sale, transport or disposal of radioactive substances under the Irradiating Apparatus and Radioactive Substances Regulations for the year were as follows :—

Category of Licence.					Irradiating Apparatus.	Sealed Source.	Unsealed Source.	Transport.
Chiropractors	..	..	..	..	103	..	..	..
Dentists	..	..	..	..	491	..	..	..
Educational and Research	..	..	..	..	31	33	56	..
Industrial	..	..	..	..	46	114	27	7
Government	..	..	..	..	21	25	25	..
General Practitioners	..	..	..	..	171	2	6	..
Veterinary	..	..	..	..	99	10	..	..
Hospitals	..	..	..	..	103	6	28	..
Other Radiology	..	..	..	..	16	12	8	..
X-Ray Clinics	..	..	..	..	24	..	2	..
Totals	..	..	..	..	1,105	204	152	7

The use of radioactive substances, particularly in medicine and research, continues to increase.

The Australian Radiation Laboratory now regularly provides this division with film badge reports from some 292 installations where people are exposed to ionizing radiation. The film badge reports indicate that the general level of radiation dose received by those people is well below permissible levels.

During the year the Division continued to provide a general radiation protection service. Some 86 radiation installations of various types were inspected. X-ray protection designs were calculated for four establishments. The low level radioactive waste disposal service for users of radiopharmaceuticals in medicine and research has continued to operate satisfactorily. The Division has arranged for appropriate disposal of a small number of radioactive sources.

The survey of dental X-ray installations has continued and some 61 installations were inspected during the year.

Seventeen microwave ovens were tested for leakage of microwave radiation at the request of owners.

Noise.

Noise level assessments in relation to noise induced deafness were undertaken in fourteen factories and appropriate recommendations made.

Audiometric examinations were carried out on 123 employees working in noisy industries.

Dust.

During the year 16 gravimetric dust determinations were undertaken.

## ENGINEERING DIVISION.

## SANITATION SECTION.

*Stream Pollution and Drainage (E.P.A. Licences).*

Numbers of licence applications to this section continued to grow and the section has been instrumental in arranging solutions to various difficult environmental problems mainly involving troublesome and overloaded sewage treatment plants and having these disconnected and the premises connected to Melbourne and Metropolitan Board of Works sewers.

Fifty-five Environment Protection Authority Licence applications were referred to this section by District Health Officers for comment pursuant to the provisions of the Environment Protection Act. Five inspections were made in relation to drainage complaints and Environment Protection Act Licence Applications. Officers of the section have represented the Department on the Working Party on Small Sewage Treatment plants convened by the Environment Protection Authority and the Melbourne and Metropolitan Board of Works.

*Sewerage.*

Four new schemes at Dromana/Rosebud, Robinvale, Merbein, and Cranbourne were completed or brought into partial operation during the year. The Dromana/Rosebud works produces a high class effluent by mechanically aerated ponds which is discharged to the Melbourne and Metropolitan Board of Works' South-Eastern outfall which ultimately discharges into Bass Strait at Boags Rocks. The other systems employ treatment by waste stabilisation ponds and ultimate disposal on land by way of irrigation.

Construction commenced on schemes at Cowes, Creswick and Inverloch. New sewerage authorities were constituted for the towns of Koo-Wee-Rup, Heathcote, Minyip, Nagambie, Romsey and Bellbridge (Tallangatta). There are now 125 sewerage authorities constituted in Victoria under the Sewerage Districts Act and 101 of these systems are in operation. One hundred and sixty-five inspections of town sewage treatment works were made during the year and samples were taken for analyses to the Health Laboratories. The sewerage authorities were advised of the test results and comment was made on the operation and effectiveness of operation.

*Subdivisional Sewerage Schemes.*

Fourteen subdivisional schemes pertinent to the Local Government Act and Septic Tank Regulations were examined. Seventeen inspections were made in connection with subdivision schemes involving inspections of sites and operating systems.

*Septic Tank Installations.*

Plans of 191 new installations and 19 alterations to existing systems were examined, a total of 376 septic tank inspections were made.

*Small Sewage Treatment Plants.*

Plans for twelve new treatment plants for institutions, hospitals, schools and factories were examined and inspections were made of 59 treatment plants serving such premises.

*Offensive Trades and Garbage Depots.*

Sites for six new garbage depots were inspected in conjunction with the District Health Staff. Plans associated with four applications for approval of cattle sale yards were examined. Inspections of six cattle sale yards were made.

*Preparation of new publications.*

A new booklet entitled "Recommended Code of Sewage Treatment Practice—Part A" was published during the year and circulated to all municipal councils, selected State and Federal Government Departments and many other interested bodies. The draft edition for review of the Part B of the "Recommended Code of Sewage Treatment Practice" was completed and has been distributed to various individuals, consulting engineers and authorities for comment. Part B deals with selection, design, construction and operation of trickling filters, activated sludge treatment plants (involving package plants), all aspects of waste stabilisation ponds and various effluent polishing processes. Preparation is continuing on the Part C draft booklet dealing with proprietary closets, sewage pumping systems, disinfection and chlorination.

### *Investigation and testing programmes.*

Extensive field testing, sampling and recording of treatment plants and assessment of water usage has again continued throughout the year to determine precise design perimeters, flow figures, ratios of peak to average flows, radial isolation distances, chlorine installation aspects for the uniform state wide policy for small sewage treatment systems.

The findings from the above surveys are being incorporated into Parts B and C of the "Recommended Code of Sewage Treatment Practice".

### *Conference and Lectures.*

The 38th Annual Sewerage Operators and Engineers Conference was held again in Melbourne on the 18th and 19th September at the Melbourne and Metropolitan Board of Works' building. The delegates were welcomed by the Chairman of the M.M.B.W., Mr. A. H. Croxford, and the conference was officially opened by the Chief Health Officer of the Department of Health, Dr. B. P. McCloskey. Approximately 250 delegates attended the conference at different stages during the two days.

The highlight of the conference was a joint paper entitled "Operator Training Research and Public Relations" delivered by the Chief Public Health Engineer, Mr. D. A. Ferrier, and Superintendent of Waste Water Treatment, Mr. D. R. Cameron, of the Ministry of Works and Development New Zealand. Technical inspections were made of the M.M.B.W. Regional and Neighbourhood Type Plants located in the outer metropolitan area.

Lectures were again delivered by Division staff for the Royal Society of Public Health. Public Health Inspectors' Diploma at the William Angliss College of Catering and Food Studies, the Swimming Pool Operators' Training Course at the Footscray Technical College and the Post-Graduate Course in Public Health Engineering at the Swinburne Institute of Technology.

The staff of the Sanitation Section have spent a large proportion of their time answering technical enquiries and forwarding information to engineers, architects, contractors, builders, technical colleges, municipal councils and government departments. This particular work facet appears to be increasing.

### *Water Treatment Section.*

Officers in this Section carried out 134 water supply inspections, 142 swimming pool inspections submitted 66 samples for bacteriological analysis and ten samples for general chemical analysis.

### *Water Supplies.*

Surveillance of water supplies continued with particular attention to catchment surveys in supplies having significant bacteriological counts in reticulated water.

Subsequently several authorities installed chlorination on the recommendation of the Commission to ensure safety of the supply.

### *Swimming Pools.*

During the year the Youth Sport and Recreation Department gave special consideration to funding re-construction of swimming pools having conditional exemptions from the Swimming Pools Regulations, and by next summer a large proportion of the exempt pools will be upgraded.

Problems were apparent in the general standard of country swimming pools reflecting the economic problems experienced by management committees and shires and the shortage of experienced supervisors.

As part of a continuing programme to upgrade the standard of swimming pools departmental officers again took part in the annual Swimming Pool Operators Training Course held at the Footscray Institute of Technology.

### *Fluoridation.*

Five water supply authorities commenced fluoridation in accordance with the provisions of the Act.

Fluoridation is now underway in small areas of Melbourne and the Mornington Peninsula, and construction of the major plants to serve the remainder of Melbourne is close to the schedule required to enable complete fluoridation by late August 1976 as directed by the Commission.

Initial planning is also under way to enable fluoridation of the Geelong water supply by the middle of 1977 as required by the Commission.

### *Building Surveying Section.*

Plans and specifications were examined and approval given for some 1,126 public buildings and electrical and mechanical ventilation systems were examined as shown in the following table :—

#### *Plans Examined.*

Class of building.	Sketch plans for approval in principle.	Working drawings for approval.	Electrical installations.	Mechanical ventilation installations.	Totals.
Special Accommodation Houses .. .. .	..	..	8	..	8
Institutions .. .. .	1	8	..	..	9
Public Buildings (under Public Building Regulations) ..	33	461	436	76	1,006
Tertiary Education Buildings .. .. .	..	66	96	31	193
Schools .. .. .	12	236	205	27	480
Pre-school and Infant Welfare Centres.. .. .	72	199	150	29	450
Amusement structures/tents .. .. .	1	29	3	..	33
Child Minding Centres .. .. .	1	35	89	11	136
Mentally Retarded Centres .. .. .	8	24	24	3	59
Elderly Citizens Clubs .. .. .	34	45	40	15	134
Exhibitions/seating plans .. .. .	..	23	..	..	23
Totals .. .. .	162	1,126	1,051	192	2,531

There were 6,143 inspections of public buildings during the year and 84 of these inspections were made during public occupation.

Fifty-one (51) new Certificates of Safety for Amusement Park Structures were issued, two hundred and ninety-nine (299) were renewed and eleven (11) transferred.

### *Land Waste Management Division.*

This Division administers the powers and functions delegated to the Commission of Public Health by the Environment Protection Authority for the issue of licences for transport and deposit of solid and liquid wastes, including sludges, to land.

### *Licensing Statistics for 1975-76.*

New applications accepted .. .. .	..	..	..	..	..	164
Applications cancelled .. .. .	..	..	..	..	..	37
Licences pending .. .. .	..	..	..	..	..	243
Licences issued .. .. .	..	..	..	..	..	162
Licences amended .. .. .	..	..	..	..	..	38
Licences refused .. .. .	..	..	..	..	..	Nil.

### *Field Investigations.*

A total of 281 inspections were carried out, many of them jointly with officers of other Authorities and Municipal Officers.

### *Current Problems.*

The major problem facing this Division in the Melbourne and Metropolitan area remains the fact that there are as yet no proper treatment or disposal facilities for hazardous and liquid wastes, possibly a small number spread throughout the metropolitan area.

Most sites cannot be used for this purpose because of their potential for leachate escape and pollution of local and regional ground water aquifers. Both the Mines Department and this Section are committed to the protection of underground water resources.

Large scale disposal of liquid agricultural wastes such as casein whey and winery waste water remains the major problem in rural areas. Because of large seasonal variations in stream flows it is desirable that waste disposal schemes be adopted which do not discharge effluent to watercourses.

Another area of concern relates to the operation of municipal garbage depots on flood plains. Existing depots located on flood plains should be removed as soon as possible and the establishment of future ones on flood plains prevented at all costs.

*Items of Special Interest.*

1. Two Third Party Appeals in relation to the Sunshine Garbage Depot have required extensive scientific work. The principle at stake is the protection of Melbourne's underground water resource from pollution.

2. Officers of this Division attended a meeting at the request of the Albury-Wodonga Development Corporation dealing with the "Albury-Wodonga Waste Disposal Study". Prior to this meeting they inspected the proposed site for refuse disposal to serve the Rural City of Wodonga located near the Beechworth Road. They were accompanied by the City Engineer who considered the site satisfactory from an operational point of view as did the Departmental officers. The views of the State Rivers and Water Supply Commission and Mines Department were immediately obtained and were favourable. The necessary preliminary work has therefore been done to recommend to the Commission approval of the site as a garbage depot pursuant to the Health Act and the issue of an E.P.A. licence as soon as applications are received.

At present the Rural City of Wodonga uses the "Lincoln Causeway Tip" for municipal refuse disposal. It has in the past and is still receiving wastes into this tip site from New South Wales. The transfer of garbage across the New South Wales-Victorian border has previously been one of particular concern to the Department of Agriculture which is interested in fruit fly control. This problem was never satisfactorily solved. However, a licence has now been issued to the Rural City of Wodonga in relation to the Lincoln Causeway Tip which contains the following condition :—

"The licensee shall strictly ensure that after the expiry of one month from the date of issue of the licence only wastes originating within the municipal district of the Rural City of Wodonga are allowed to enter the site. Wastes of any nature whatever from outside the municipality must be strictly excluded from the site after that date."

It can thus be seen that the simple inclusion of the requirement that only waste originating within the municipal district can be disposed on the tip site solves the problem of interstate transfer of wastes. The Commission's officers suggested that all concerned in the area should be made aware of the implication of this condition at an early date.

3. There has been a marked tendency for industries to cease using on site land discharges for the disposal of liquid chemical wastes. Some industries have altered their processes with a resultant decrease or cessation of discharge to the environment. Others have opted to either pretreat the wastes and discharge them to the sewer or to transport the wastes to licensed disposal sites.

4. All prospective municipal garbage disposal sites (either new or existing) are inspected prior to issue of a licence by professional officers who spend considerable time with the municipal engineer or his deputy regarding the best method of operation. The general standard of garbage depot operation in municipalities has improved markedly as a result of this procedure.

5. A large number of previously issued transport and discharge licences were amended at the request of the Environment Protection Authority to make the Carrier's Certificate System a licence condition for all liquids transported by tanker. All new licences now have this condition included.

6. Many pre-licence application inspections and reports were made on possible tip sites for municipal councils.

7. Numerous inspections and reports were made on proposed waste disposal sites for new industries mainly in the outer metropolitan area and in the country in order to give an indication as to whether land discharge at all times is feasible. These reports can be very time consuming although wherever land disposal is feasible it greatly assists to protect the water quality in our surface streams. This service was greatly appreciated by all the industries concerned.

*General.*

The licensing of the disposal of a wide range of liquids, sludges and solids on and below the surface of the soil requires considerable knowledge in the fields of engineering, chemistry, geology, soil and agricultural science. A group of four technical officers is currently working in this field.

SPECIAL HEALTH SERVICES SECTION.

During the Section's second full year of operation the staff has increased to include the following :—

- 1 Medical Officer
- 1 Health Education Officer, commenced duty February 1976.
- 1 Senior Sister
- 6 Visiting Nurses
- 14 Community Health Aides—appointed April/May 1976
- 1 Administrative Officer
- 1 Stenographer

The Nurses work in teams of two to three Community Health Aides to each nurse, and now cover the following districts :—

Mildura and Robinvale  
Goulburn Valley  
Shepparton and Echuca  
Swan Hill and Ballarat  
West Gippsland  
Western District  
Healesville and Dandenong  
Metropolitan

Approximately 24–36 families are visited each week by each Visiting Nurse team. This figure depends on the density of families living in the various areas. The term “family” more correctly refers to addresses where as many as four families may reside. It is considered that each family may comprise as many as six members ; the number of persons being visited each week approaches 180.

The duties of the teams are as follows :—

To establish and maintain contact with Aboriginal families throughout Victoria.

To assess their health needs, and the ways in which they are met by medical and para-medical services.

To provide health education where appropriate and to encourage the use of health services.

The following agencies have referred Aboriginal people to the Section's nurses for help in relating appropriately to these people in the provision of their services :—

Commonwealth Department of Social Security

Dentists

Social Welfare Department

Clergy

Mental Health Authority

Police

Hospitals

Education Department

District Health Officers

Family Planning Clinics

Housing Commission

Alcoholics Anonymous

Local Government Officers

Parents without Partners

Infant Welfare Centres

Halfway House

General Practitioners

School Medical Service

Youth Groups

Hostels

Community Health Centres

Day Nurseries

Youth Welfare

Supporting Mothers' Groups

The Nurses therefore function in this supportive way until the family is seen to use the agencies independently of the Nurses.

The types of cases involved include family disfunction due to :—

1. poor mental health
2. alcoholism and drug dependence
3. malnutrition
4. poor hygiene
5. accidents
6. chronic physical disorders, e.g. heart, chest, liver complaints, and diabetes and venereal disease and parasite infestation ;
7. mis-management of children resulting in neglected ear, nose and throat and chest conditions, obesity and poor dental health.

Other cases involved the provision of some education in the need for—

- Support in pre and post-natal care
- Family planning
- Routine Cervical Smears
- Dental hygiene
- Baby care and breast feeding
- Immunization
- Nutrition, theory and practice
- Safety in the home
- Sex Education
- First Aid

The duties of the Community Health Aides are as follows :—

- to be responsible to the area Visiting Nurse ;
- to undertake courses of training in Melbourne each year ;
- to undertake on the job training ;
- to investigate and report on the health needs of the Aboriginal families for whom they are responsible ;
- to become familiar with and to the Health and Welfare Services, both voluntary and statutory, in their areas ;
- to provide crisis counselling and support ;
- to assist families with unfamiliar procedures, e.g. the filling out of forms ;
- to liaise between families and authorities ;
- to assist with health education programmes ;
- to provide transport to medical services, where no other form of transport is available ;
- to visit Aboriginal people in care, e.g. in old peoples' homes or hospitals or other institutions, particularly where the environment is unfamiliar to them ;
- to meet regularly with the other members of the team and to provide written reports of activities.

Since the Special Health Services Section started with very little information and knowledge of the health status and needs of the Aboriginal community in Victoria, the initial two years of the programme have been very much an exploratory and assessing period. Health needs have been determined, the resources of the general community that can be mobilized to meet these needs have been assessed, and a trusting relationship with the Aboriginal community has been established.

Efforts, now, particularly with the team approach of the Aboriginal Community Health Aides and Nurses working closely together, can begin to concentrate on the preventative aspect of health, at a much deeper level than previously possible. Relevant areas to offer information and advice in a health education programme have included the topics of family planning, nutrition, child development, adolescence, infectious diseases and alcoholism and it would now appear that the type of support given by the Section will be needed for some years to come.

#### *State Wards.*

By inter-Departmental arrangement under the Social Welfare Act, the Health Department provides general medical attendances, drugs and medications, spectacles, surgical appliances etc. to wards of State and persons assisted or maintained by Social Welfare under Family Assistance and Youth Welfare programmes. "Home Medical Chest" type of supplies are also provided for Children's Homes, whether administered by the Social Welfare Department or by benevolent organisations and Youth Training Centres.

While the larger centres have regular sessional medical attendants, the smaller ones, and private families, engage the doctor of their choice and the Department pays his account. The rates were those of the Repatriation Department, but since July 1975 "Medibank" "common fee" rates have been approved.

Accounts for drugs and medications prescribed are referred through the Pharmacy Guild to the Department for payment.

The programme runs fairly smoothly, except when assisted people incur specialist, hospital or other high accounts without first disclosing their assisted status. These cases have to be investigated, as to whether the circumstances warrant a recommendation for payment or otherwise.



Of the hotels visited five (5) did not have the regulation denaturing substance in the drip trays. A warning was given to all offending licensees.

Investigation of a number of complaints concerning allegedly adulterated beer disclosed that the alcohol content was of the required strength. It would appear that some of these complaints were caused by hotel keepers using too much detergent in glass washing machines and in cleaning beer lines. Insufficient carbonization of beer before dispensing was also another possible cause.

A complaint was received regarding a precipitate in bottled beer which on analysis was confirmed. This particular beer had been stored by the complainant for a period of twelve months under fluctuating temperature conditions.

Following a complaint concerning the alleged use of prohibited colouring matter in a wine produced and purchased from a small winery in South Australia, arrangements were made for the matter to be investigated by the South Australian Authorities and it was disclosed that four varieties of wine produced in that State contained prohibited colouring material. Subsequently, this anomaly was rectified.

Opened bottles of spirits tested were as follow :

Whisky	..	Australian	..	..	..	435
		Imported	..	..	..	666
Brandy	..	Australian	..	..	..	315
		Imported	..	..	..	80
Gin	..	Australian	..	..	..	230
		Imported	..	..	..	51
Rum	..	Australian	..	..	..	132
		Imported	..	..	..	234
Vodka	..	Australian	..	..	..	155
		Imported	..	..	..	10
Schnapps	..	Australian	..	..	..	18
		Imported	..	..	..	1
Tecala	..	Imported	..	..	..	2
						<hr/> 2,329 <hr/>

Of these, ten failed to comply with the requirements of the regulations as to alcoholic strength. The licensee in each case was given a warning.

#### *Free Travel to Hospitals.*

In contrast to the previous year there was a large increase in the number of applications for free travel to hospitals. The overall total was 29,508 compared with 23,024 for 1974/75.

In respect of 29,427 of the applications free rail vouchers and/or tram tickets to attend a public hospital for treatment were issued. The remaining 81 applications were rejected as the applicants either failed to qualify as "persons of similar limited means to a pensioner", were not attending approved institutions or wished to use private transport.

The expenditure incurred on free travel was \$124,020.

Refunds were granted to 40 applicants. Most of the refunds were caused by persons being called to hospital for treatment at short notice and as a result there was insufficient time for them to apply for free travel.

#### *Cemeteries.*

At the present time there is a total of 758 public cemeteries and private burial grounds in Victoria. During the year there were no approvals granted for the establishment of new public cemeteries or private burial grounds. There has been, however, a noticeable increase in the number of enquiries received which relate to burials in private land.

As stated in the previous annual report, the trend in Victoria is towards the establishment of lawn burial sections in existing cemeteries, and numerous Cemetery Trusts have established such sections. The main advantage of lawn cemeteries is that maintenance costs are substantially reduced and a more aesthetically acceptable appearance is presented, which is in contrast to some older traditional monumental cemeteries.

Maintenance grants totalling \$14,000 were made to cemeteries whose income was insufficient to enable satisfactory maintenance standards to be kept up. With the present economic climate, such grants are losing value compared with the works which could be provided a few years ago for a similar amount, and an increase in the total allocation would enable more suitable grants to be made in some instances.

The Trust of the Fawkner Crematorium and Memorial Park have submitted proposals for the re-building of the crematorium complex which is at present in use, and loan arrangements are currently being negotiated by the Trust and the State Treasury.

During the year Licences to sign Confirmatory Certificates for Cremation were issued to nineteen medical practitioners and to date 448 licences have been issued.

A total of eighty-three licences to exhume the remains of bodies were issued, compared with thirty in the previous year. The increase, however, was mostly due to applications by two Religious Orders for the exhumation of fifty-two bodies from two cemeteries for the purpose of re-interment in approved private burial grounds.

No amendments were made to the *Cemeteries Act* 1958 or the *Cemeteries Regulations* 1965, however a consolidation of the Act is currently being investigated.

#### *Training of Health Inspectors.*

Thirty-one candidates successfully completed their training as Health Inspectors, after passing the final examinations in December 1975. These candidates were duly recommended to the Royal Society of Health, London, for the Diploma of Public Health Inspection.

Fifty-five students are undertaking the final year of the course in 1976.

#### PROSECUTIONS.

During the past year a total of twenty (20) Contraventions of the Health Act were forwarded to the Crown Law Department for the instigation of prosecution proceedings.

These were as follows :—

<i>Contravention</i>	<i>No.</i>
Faulty plumbing work .. .. .	2
Carried out plumbing work whilst not registered .. .. .	2
Conducted an unregistered Child Minding Centre .. .. .	3
Failure to provide required amount of staff at a Child Minding Centre	1
Failure to Register premises as a Special Accommodation House	7
Sale of an unregistered Proprietary Medicine .. .. .	1
Failure to attend for a Chest X-Ray .. .. .	2
Sale of adulterated food .. .. .	2

In all cases the proceedings resulted in the defendants receiving fines for the abovementioned contraventions.

#### LEGISLATION.

The *Health (Fees) Act* 1975, proclaimed on the 1st March, 1976, raised the maximum fees which may be prescribed under the *Health Act* 1958 for the examination of plans for public buildings, the examination and registration of cinematograph operators and the registration of premises as set out in the Eleventh Schedule to the Act.

The appropriate Regulations have been amended to give effect to this legislation and in other instances, where fees charged for Departmental services have been set below the maximum, or where no maximum has been set by the Act, the Regulations have been amended to provide for an increase in fees of 15 per cent. in accordance with a Treasury direction.

Several of the older Regulations under the Health Act have been the subject of consolidation and review so that they may be brought into line with present day requirements. A number of these are nearing completion and are expected to be in operation next year. They include the following :—

- Amusement Structures Regulations.
- Camping Regulations.
- Food Establishment Regulations.
- General Sanitary Regulations.
- Infectious Diseases Regulations
- Offensive Trades Regulations.
- Public Building Regulations.
- Septic Tank Regulations.
- Skin Penetration Regulations.

Respectfully submitted,

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Members of the Commission.

J. V. O'DONOGHUE, Secretary,  
1976.



